



EAST AFRICA BIODESIGN

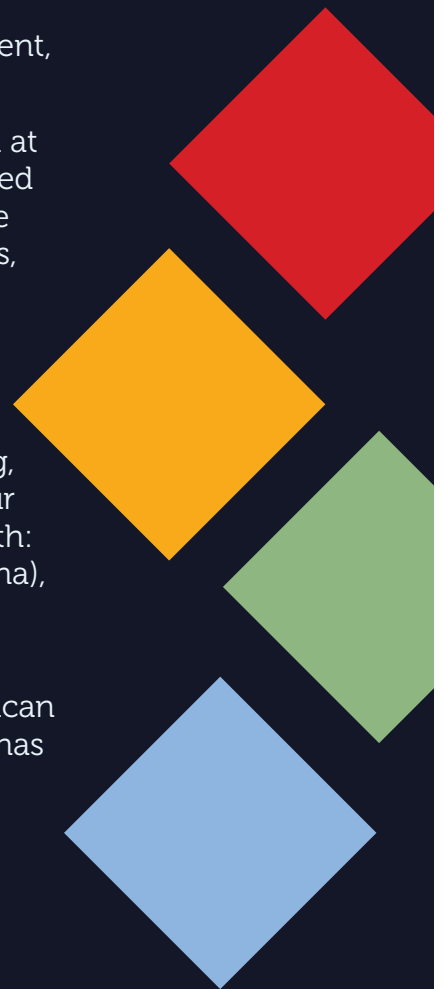
Training East African leaders in health technology innovation

East Africa Biodesign is a global collaboration between the University of Global Health Equity (UGHE), the University of Rwanda, Kenyatta University, and Stanford Mussallem Center for Biodesign. The program aims to enhance health outcomes and equity for underserved populations in East Africa by training local innovators to develop appropriate, accessible, and sustainable health innovations. East Africa Biodesign builds on local expertise through a sustainable model that combines faculty development, a hands-on fellowship, and ecosystem strengthening and support.

Seven local faculty across all three East African universities have trained at Stanford in the proven biodesign innovation process, which has impacted over 18 million people worldwide through the 50+ companies that have spun directly out of Stanford Biodesign training. By applying the process, innovators learn to identify unmet health-related needs, invent new technologies to address these needs, and prepare to implement these technologies into patient care.

The East Africa Biodesign fellowship has graduated two cohorts of multidisciplinary innovators with backgrounds in medicine, engineering, and entrepreneurship. The 12 graduated fellows have now spun out four startup companies addressing problems in maternal and newborn health: postpartum hemorrhage (Innoheza), newborn respiratory distress (Eterna), perineal tears (Sawazisha) and obstructed labor (U-Von).

Beyond the fellowship, East Africa Biodesign is investing in the broader regional innovation ecosystem and connecting stakeholders across African universities, government, industry, and investors. To date, the program has engaged 1,200+ health innovators across Africa. Recent efforts include sponsoring the Transforming African MedTech Conference, conducting workshops to train current innovators and founders, hosting a popular online East Africa Health Innovation webinar series, and ensuring innovators have access to needed expert advisors and mentors.





Innoheza

Postpartum hemorrhage (PPH) is the leading cause of maternal mortality in Africa, causing 200,000 deaths each year across Sub-Saharan Africa. Innoheza's mission is to prevent avoidable maternal deaths from PPH and to ensure dignified, life-saving maternal care for all settings. They aim to make an impact through OctoPress, a uterine suction tamponade that rapidly induces physiologic uterine contraction and controls bleeding, typically within 1-3 minutes. This safe, easy-to-use solution is designed for a single healthcare provider such as a midwife. Innovators Salsawit Tesfaye Yigrem, Bazil Masabo Mlamba and Bertrand Kwizera Nsengiyumva are nearing their first-in-human study for OctoPress and working hard to design East African maternity care aligned with international quality and clinical standards.

Sawazisha MedTech Labs

Sawazisha MedTech Labs is focused on addressing perineal trauma from tears or episiotomies. Perineal trauma is one of the most common and frequently neglected injuries of vaginal birth, leading to persistent pain, painful sex, incontinence, stigma, and reduced quality of life. Peredy Khwesa, an industrial chemist and material scientist, and Timothy Kintu, a medical doctor, have created Waridi, a single-use, self-heating, adhesive warm pad designed to reduce perineal trauma during vaginal delivery. This dual-action device is hands-free, intuitive and affordably priced at \$5. The team is working hard to validate its product with mothers giving birth in facilities across East Africa and beyond.

Eterna

For every 10 newborn children requiring oxygen therapy in Sub-Saharan Africa, only 4 receive safe oxygen. Unregulated oxygen without continuous monitoring and adjusting is triggering a surge in preventable blindness in newborns, causing low-resource hospitals to make an impossible choice between saving a life and risking life-long disability. Lisa Nzau, a control systems engineer, and Melissa Joan Aluoch, a clinical engineer, have teamed up to create EasyBreathe, an auto-titrating and blending device for safe oxygen delivery. Designed with infrastructural and staffing constraints in mind, this device aims to make safe oxygen delivery the default—not the exception.

U-Von

U-Von is focused on addressing cephalopelvic disproportion (CPD), which is a mismatch between the size of the fetal head and the maternal pelvis. Lack of diagnosis results in avoidable maternal and neonatal complications as well as significant hospital costs across East Africa. U-Von aims to change this with EsidAI, a low-frequency and AI-powered ultrasound device that predicts probability of safe vaginal delivery. This first of its kind clinical decision support tool is being developed by Susan Gitau, a biomedical engineer; Longinus Okumu, a medical doctor; and Edwin Lubanga, a software entrepreneur.

Interested in supporting East Africa Biodesign?

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For more information, please contact
Natnael Shimelash
(nshimelash@ughe.org)



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