



Our Invention Education program enables students and faculty to improve healthcare by developing and delivering inventions that solve local and global challenges through international collaboration among universities, industries, hospitals, and non-profit organizations.

Our Goal

Establish an inter-institutional ecosystem that fosters technical innovation, advances society, saves lives, and reduces poverty.

Focus Areas

- Leverage local capacity for innovation to solve local challenges
- Build a pipeline of future innovators to collaboratively design and commercialize locally-needed technologies through engineering programs using practical, hands-on invention education curriculum
- Establish a supportive community of faculty incorporating invention education into their courses

What We Do

Invention education challenges inventors from partnering universities to collaboratively develop innovative solutions and high-impact global health technologies. These solutions address real-world problems within the inventors' communities. Each university shares knowledge and best practices around invention education curriculum, infrastructure, stakeholders, and tools to rapidly prototype solutions.

Invention Education Toolkit

The Invention Education (IvE) Toolkit is an open source platform for educators that enables the sharing of knowledge and experiences to support the implementation of invention education in sub-Saharan Africa. The IvE Toolkit was developed by a team of collaborators from 16 institutions across ten countries in Africa, Europe, and North America. The Toolkit includes key literature, best practices, case studies, and teaching and design resources to help faculty build a community of invention education at their universities.



Invention Education Solutions



Leverage Innovation Capacity

Solving real-world challenges requires collaboration. Students collaborate with local and global communities to tackle pressing issues through invention education. African university administration, local industry partners, and governments support this model, leading to future employment for graduating students, along with technology design, transfer, and commercialization support.

Establish a Pipeline of Future Innovators

Invention education curriculum immerses student teams in project-based learning, both in the classroom and in the field. This model transforms learning environments through opportunities for students and faculty to develop inventions alongside clinical and industry partners. Design studios are an essential part of the Invention Education model, providing a hands-on, project-based learning infrastructure. This model employs a design process where students, faculty, and the community develop high-impact technologies that improve health and reduce poverty.

Build the Africa Invention Education Community

Faculty champions lead invention education initiatives to empower student innovators. Engineering faculty leverage active learning approaches in invention education, including incorporating the design studios into their curriculum. The community of invention education faculty assists and supports each other in incorporating invention education into their courses as they plan faculty exchanges, training courses, competitions, and curriculum reviews focusing on pan-Africa partnerships.

NEST360 is building an ecosystem of innovators to create the next generation of technologies to support newborn care and other global health needs. In partnership with local universities, we have established six design studios in Ethiopia, Malawi, Nigeria, and Tanzania.

Partnering Universities:

Addis Ababa Institute of Technology (AAiT)
Dar es Salaam Institute of Technology (DIT)
Kenyatta University
Malawi University of Science & Technology (MUST)
Malawi University of Business and Applied Sciences (MUBAS)
Rice University
University of Ibadan (UI)
University of Lagos (UNILAG)

DESIGN STUDIOS

Ethiopia

AAiT Design Studio
(Addis Ababa, Ethiopia)

Malawi

MUST Design Studio (Limbe, Malawi)
MUBAS Design Studio (Blantyre, Malawi)

Nigeria

UI Design Studio (Ibadan, Nigeria)
UNILAG Design Studio (Lagos, Nigeria)

Tanzania

DIT Design Studio (Dar es Salaam, Tanzania)



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