

IDEA League Expert Working Group

“Partnerships with African Universities and Institutions”

A Selection of Collaborative Projects

Each of the five European IDEA League universities collaborates with universities and research institutes on the African continent. In this document, we present a selection of exemplary projects that show the diversity of collaboration with African partners.

In 2020, a new IDEA League working group has been formed that aims to strengthen and expand IDEA League’s collaborations with African universities and research institutes as well as to promote the common engagement to address global challenges as outlined in the Sustainable Development Goals. As IDEA League universities, we pursue the goal of jointly developing and implementing new collaborative projects with African partners.

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1 East Africa Initiative & Global Sustainable Futures

The strategic Chalmers initiative aims to explore possibilities and strengthen collaborations with partner universities in East Africa (within food, water, energy, transport, etc.). A multi-lateral high-level workshop is planned for Kigali (postponed from May 2020) with co-host University of Rwanda. The initiative is also part of Global Sustainable Futures – a collaboration platform between Chalmers and University of Gothenburg focusing on strategic partnerships with low- and middle-income countries, for a sustainable development.

Partners in Africa

- Addis Ababa University – Addis Ababa, Ethiopia
- Jaramogi Oginga Odinga University of Science and Technology – Bondo, Kenya
- Makerere University – Kampala, Uganda
- Nelson Mandela African Institution of Science and Technology – Arusha, Tanzania
- Sokoine University of Agriculture – Morogoro, Tanzania
- Universidade Eduardo Mondlane – Maputo, Mozambique
- University of Nairobi – Nairobi, Kenya
- University of Rwanda – Kigali, Rwanda

Partner in Europe

- University of Gothenburg – Gothenburg, Sweden

3 Reality Studio Educational Platform / Master's Design Studio (incl. Field Work)

Integrated into the MSc programme Architecture and Planning Beyond Sustainability, since 2008, the aim is joint knowledge production (within architecture, urban design and planning) through a pedagogical model where students develop and help implement resilient, culturally appropriate, healthy and innovative design solutions (utilisation) responding to local/real challenges and problems. Solutions are co-created with local communities, NGOs, universities, governmental institutions and other organisations.

Partners in Africa

- Jaramogi Oginga Odinga University of Science and Technology – Bondo, Kenya
- Kenyatta University – Nairobi, Kenya
- University of Pretoria – Pretoria, South Africa
- Zingira Community Crafts – Kisumu, Kenya

2 Research Training Partnership Programme (incl. Innovation Hub)

The Sida funded programme in Sustainable Energy includes capacity building, research training and teaching (e.g. PhD, MSc, postdoc) and innovation hub activities connected to the University of Rwanda-Chalmers Grid Innovation and Incubation Hub with the objective to create a bridge to Rwanda's energy sector and address societal challenges as well as the gap between academia and society (by establishing a hub and conducting related research on innovation systems in Africa – with entrepreneurship and innovation in focus).

Partner in Africa

- University of Rwanda – Kigali, Rwanda

Partners in Europe

- Jönköping University – Jönköping, Sweden
- University of Gothenburg – Gothenburg, Sweden

4 Capacity Building in Information and Communication Technology for Development

The Sida initiated collaboration in Software Engineering/ Computer Science aims at contributing towards sustainable socio-economic growth in Uganda through capacity building in Information and Communication Technology for development research. PhD students in digital innovation, software engineering and entrepreneurship are trained through a research partnership.

Partners in Africa

- Makerere University – Kampala, Uganda
- Mbarara University of Science and Technology – Mbarara, Uganda

Partner in Europe

- University of Gothenburg – Gothenburg, Sweden

1 Joint Master's Programme in Mechatronics Engineering with Ashesi University

Ashesi University in Ghana and ETH Zurich, together with industry partners, are developing a master programme in mechatronics engineering that will be taught in Ghana by faculty of both institutions starting in 2021/2022.

Partner in Africa

- Ashesi University – Accra, Ghana

2 Joint Summer School “Rethinking Waste” with KNUST

The ETH Sustainability Summer School “Rethinking Waste”, which will take place in September 2021, offers students from KNUST and ETH Zurich a unique learning experience. Students will receive inputs from lecturers from both universities and local experts, get first-hand experiences of challenges in waste management, and work in interdisciplinary and cross-cultural settings towards a common goal.

Partner in Africa

- Kwame Nkrumah University of Science and Technology – Kumasi, Ghana

3 RUNRES | Establishing a Nutrient Loop to Improve City Region Food System Resilience

RUNRES aims to link locally important value chains (from production to consumption) with novel waste recycling solutions to improve the flow of resources and the resilience of rural-urban food systems in four city regions.

Partners in Africa

- Arba Minch University – Arba Minch, Ethiopia
- International Institute of Tropical Agriculture – Kigali, Rwanda
- International Institute of Tropical Agriculture – Kinshasa, Dem. Rep. of Congo
- University of Kwazulu-Natal – Durban, South Africa

4 Institutional Partnerships in Research and Education with Universities in Africa

In addition to Ashesi University and KNUST, ETH Zurich has established formal cooperation commitments with the University of Cape Town and Stellenbosch University in South Africa as well as with Addis Ababa University in Ethiopia. These are intended to facilitate cooperative education and research activities. Fields of cooperation include e. g. Sustainable Production Systems and Human Nutrition (SU), Urban Systems and Materials Science (UCT), and Entrepreneurship and Technology Transfer (AAU).

Partners in Africa

- Addis Ababa University – Addis Ababa, Ethiopia
- Ashesi University – Accra, Ghana
- Kwame Nkrumah University of Science and Technology – Kumasi, Ghana
- Stellenbosch University – Stellenbosch, South Africa
- University of Cape Town – Cape Town, South Africa

1 Strategic Joint Projects with UEM: ICT, Energy, Strategic Empowerment

UEM and Polimi have developed joint initiatives funded by the “Polisocial Award” competition for responsible research, such as Boa_Ma_Nhã, Maputo! (a study for strategic territorial development) and Safari Njema (bottom-up mobility solutions based on big data analysis). Others are funded by the Italian Agency for Development Cooperation, such as ICT4DEV, and by Horizon 2020 calls.

Partner in Africa

- Universidade Eduardo Mondlane – Maputo, Mozambique

3 LEAP-RE | Joint EU-AU R&I Partnership on Renewable Energy

The Horizon 2020 project LEAP-RE (2021–2025) seeks to create a long-term partnership between African and European stakeholders in a quadruple helix approach: government, research and academia, private sector, civil society. It aims to accelerate the energy transition in Africa to boost economic growth, job creation and sustainable development. LEAP-RE implements a variety of research, innovation, and capacity-building activities.

Partners in Africa

- Academy of Scientific Research and Technology – Cairo, Egypt
- Addis Ababa Science and Technology University – Addis Ababa, Ethiopia
- Botswana International University of Science and Technology – Palapye, Botswana
- Dedan Kimathi University of Technology – Nyeri, Kenya
- Ecole Polytechnique d'Abomey-Calavi – Abomey-Calavi, Benin
- Ecole Supérieure Polytechnique de Dakar – Dakar, Senegal
- Eduardo Mondlane University – Maputo, Mozambique
- Institut International d'Ingénierie de l'Eau et de l'Environnement – Ouagadougou, Burkina Faso
- Makerere University – Kampala, Uganda
- Moi University – Eldoret, Kenya
- Pan African University Institute for Water and Energy Sciences – Tlemcen, Algeria
- Strathmore University – Nairobi, Kenya
- Université de Lomé – Lomé, Togo
- University of Dar es Salaam – Dar es Salaam, Tanzania
- University of Nairobi – Nairobi, Kenya
- University of Rwanda – Kigali, Rwanda
- University of Yaoundé – Yaoundé, Cameroon
- University of Zambia – Lusaka, Zambia

2 Strategic Joint Projects with SNU: Infrastructural and Strategic Empowerment

The projects aim to strengthen Somali National University's operations through the infrastructural development of its campus and the empowerment of its staff. It aims to support SNU in developing its role as an institution as well as in the process of consolidating higher education in Somalia. The projects are funded by the Italian Agency for Development Cooperation.

Partner in Africa

- Somali National University – Mogadishu, Somalia

4 IHEA Foundation Italian Higher Education with Africa

Established in 2020 by six Italian Universities supported by the Ministry of Universities and Scientific Research, the Foundation promotes transnational education and aims to reinforce higher education within the Continent, with a focus on the Horn of Africa. Besides the ongoing virtual mobility programs, the master “Sustainable Management of Resources and Cultural Heritage for Local Development” will train qualified young lecturers from African HEIs.

Partners in Africa

- Addis Ababa Science and Technology University – Addis Ababa, Ethiopia
- Catholic University of Cameroon – Bamenda, Cameroon
- Jimma University – Jimma, Ethiopia
- Nelson Mandela African Institution of Science and Technology – Arusha, Tanzania
- Somali National University (SNU) – Mogadishu, Somalia
- Strathmore University – Nairobi, Kenya
- Technical University of Mombasa (TUM) – Mombasa, Kenya
- Universidade Lúrio (UniLúrio) – Nampula, Mozambique

1 Partnership for Occupational and Environmental Health Research and Development

Since 2016 the Institute for Occupational, Social, and Environmental Medicine, RWTH Aachen University collaborates with the Department of Biological, Environmental and Occupational Health Sciences (BEOHS) at the University of Ghana on capacity building to strengthen occupational health and safety in Ghana, in particular in the informal e-waste recycling sector.

Partner in Africa

- University of Ghana – Accra, Ghana

3 Design-Build Strategies of School Buildings in Guinea

The research project focuses on the investigation of sustainable space and construction principles of school building in Guinea and design-build strategies for the local implementation of these principles. This includes typological studies, construction methods, and materialisation processes as well as the building of a prototypical school in Guinea.

Partner in Africa

- Institut Supérieur d'Architecture et d'Urbanisme – Conakry, Guinea

Partner in Europe

- University of Applied Sciences Düsseldorf – Dusseldorf, Germany

2 International Master's Programme in Energy and Green Hydrogen

RWTH Aachen University together with its partner Forschungszentrum Jülich is planning an international master's programme in green hydrogen with selected West African countries within the framework of the WASCAL funding scheme starting in October 2021.

Partners in Africa

- Université Abdou Moumouni – Niamey, Niger
- Université Cheikh Anta Diop de Dakar – Dakar, Senegal
- Université de Lomé – Lomé, Togo
- Université Felix Houphouët Boigny – Abidjan, Ivory Coast

4 Sustainable Model to Achieve Food Security and Nutrition for Small-Scale Households

The project combines different techniques in sustainable agriculture and aquaculture to promote food security and nutritional requirements and hence improve the socio-economic livelihoods of low-capital small-scale farmers in African countries. It envisions an alternative food production system that promotes high-water use efficiency and nutritional food diversity while maximizing productivity per unit drop of water utilized.

Partner in Africa

- Makerere University – Kampala, Uganda

1 TAHMO | Straight as Rain: Africa's Rainfall Measured, Modelled, Mapped and Analysed

In Africa, agriculture relies heavily on localised rainfall, which is difficult to predict. In collaboration with the Trans-African Hydro-Meteorological Observatory (TAHMO), researchers at TU Delft use satellite data, information from ground stations and weather models for predicting local rainfall by making detailed calculations of the atmosphere. Goal: a network of 20,000 weather stations across sub-Saharan Africa.

Partners in Africa

- Federal University of Technology Akure – Akure, Nigeria
- Jomo Kenyatta University of Agriculture and Technology – Juja, Kenya
- Kwame Nkrumah University of Science and Technology – Kumasi, Ghana

Partner in North America

- Oregon State University – Corvallis, USA

3 Addis Ababa Living Lab | Creating Resilient Dwelling Clusters for Urban Resettlement

The main goal of the project “Addis Ababa Living Lab” is to improve the livelihood of Addis Ababa’s urban dwellers using transdisciplinary approaches of analysis, planning and design. An accurate understanding of social, economic and technological needs and enhanced community participation is crucial. To achieve this goal, a contextually new co-creation model is being used.

Partners in Africa

- Addis Ababa City Federal Housing Corporation Ethiopia – Addis Ababa, Ethiopia
- Addis Ababa University Ethiopian Institute of Architecture – Addis Ababa, Ethiopia
- Ministry of Urban Development and Housing Ethiopia – Addis Ababa, Ethiopia
- Mission for Community Development Programme – Addis Ababa, Ethiopia
- RAAS Architects PLC – Addis Ababa, Ethiopia
- UN Habitat – Nairobi, Kenya

Partners in Europe

- HIS Erasmus University Rotterdam – Rotterdam, The Netherlands
- Mecanoo – Delft, The Netherlands

2 INSPiRED | Inclusive Diagnostics for Poverty Related Parasitic Diseases

INclusive diagnoStics for Poverty RElated parasitic Diseases (INSPiRED) is a research project for the development and validation of inclusive, smart, easy to use, cost-effective and efficient optical devices for the diagnosis of poverty-related parasitic diseases (malaria, schistosomiasis, and hookworm) in Nigeria and Gabon.

Partners in Africa

- College of Medicine Centre de Recherches Médicales de Lambaréné – Lambaréné, Gabon
- University of Ibadan – Ibadan, Nigeria
- University of Lagos – Lagos, Nigeria

Partner in Europe

- Leiden University Medical Center – Leiden, The Netherlands

4 The African Water Corridor Programme

The African Water Corridor programme contributes towards ensuring that water will no longer be a limiting factor for the development of human and natural resources along Sub-Saharan African development corridors, through the co-creation – with multidisciplinary stakeholders – of innovative, open-source technologies and sustainable implementation strategies.

Partners in Africa

- Council for Scientific and Industrial Research – Accra, Ghana
- University for Development Studies – Tamale, Ghana