

Center Title and Acronym: Water Infrastructure and Sustainable Energy Futures (WISE-Futures)

Host University and Country: The Nelson Mandela African Institution of Science & Technology-Tanzania

Center Website Address: www.wisefutures.ac.tz

Center Director and email address: Dr. Hans C. Komakech and email: hans.komakech@nm-aist.ac.tz

Primary Thematic Discipline of Center: Water and Sanitation, Water Resources, and Energy

Brief Description of Center:

Water Infrastructure and Sustainable Energy Futures (WISE – Futures) African Center of Excellence is hosted by the Nelson Mandela African Institution of Science and Technology (NMAIST), Arusha, Tanzania. WISE – Futures is one of the 24 East and Southern Africa Higher Education Centers of Excellence (ACE II) supported by the World Bank. The center focuses on three priority areas: water and sanitation security, water resources security, and energy security. The objective is to achieve excellence in teaching, learning, research, and outreach in water, sanitation, and energy security. The centre works directly with the school of Materials Energy Water and Environmental Sciences (MEWES).

Key Objectives and Expected Outcomes:

The objective of the WISE – Futures is to contribute to the transformation of Africa’s economies by assembling a critical mass of highly skilled water, sanitation, and energy professionals who are able to deliver cutting edge research and innovation in the sector.

Specifically, WISE - Futures aspires to:

- a) Provide an excellent learning environment for training top-notch Masters and PhD graduates specializing in water, sanitation and energy related fields;
- b) Provide a stimulating research environment for early career researchers to enable them contribute to solving pressing societal problems related to water, sanitation and energy;
- c) Strengthen regional and international research collaboration in order to promote the development of cutting edge solutions to water, sanitation and energy challenges in the region; and
- d) Promote inclusive socio-economic transformation in the region by turning research findings into usable and accessible products for the benefits of society, and industry, and the sustainability of the environment.

Major Accomplishments to Date:

WISE-futures has so far managed to accomplish

- Engagement with private sector industries such as A to Z Agro-Textile, Mobisol and looking forward to further expand collaboration with other private industries.
- Entered into a collaborative arrangement for student exchange programmes with Korean Maritime University
- Enrolled and sponsoring 6 master students who are in their second semester of course work. Three are Tanzanian females and one regional male. The other two students are receiving their scholarship from the project titled Water Purification Using Capacitive Deionization supported by the World Academy of Sciences.
- We selected and offered a scholarship opportunity to 12 PhD students and so far 3 have reported one female and two males from Tanzania studying by research and thesis. The rest will be joining in January to study by coursework. The remaining are two females, one is regional from Rwanda and the rest are males, five from the region and five from Tanzania.
- Recruited a centre manager, procurement officer and Monitoring & Evaluation officer. Currently we are in the process of interviewing candidates to fill three positions Admin Assistant, Quality Assurance Officer and Driver. To complete the team, we will be advertising for a communication officer position in November 2017.

- Supported one of our students Ms. Agatha Wagutu, to attend the 9th International Conference of the African Materials Research Society in Botswana to present her abstract entitled ‘CRUSTACEAN DERIVED BIOCOMPOSITE FOR DECONTAMINATION OF DRINKING WATER IN NORTHERN TANZANIA.’
- We have published over 18 peer reviewed papers with national, regional and international authors.
- Acquired a new project on improving sustainability rural water systems through mobile money prepaid solution
- We have renovated our centre building which the two ACE’s (CREATES-FNS & WISE-Futures) will share.
- We managed to officially launch all ACEs in Tanzania on 23rd August, 2017. The official launch was officiated by the Tanzanian Minister for Education, Science, Technology and Vocational Training (ESTVT) Her Excellency *Honorable Joyce Ndalichako*; and the World Bank Country Director Ms. Bella Bird.

Primary Regional and Global Partners:

- Industry-Academic Cooperation Foundation of Korean Maritime and Ocean University
- Gulu University
- College of Engineering, Design, Art and Technology (CEDAT) Makerere University
- IHE Delft, Institute for Water Education (UN –IHE)
- Vaal University of Technology (VUT)
- The Nile Basin Capacity Building Network (NBCBN)
- WaterNet

Senior Faculty	Email Address	Research Area
Jing Zhang (ECNU)	jzhang@sklec.ecnu.edu.cn	Water Resources
Johnson Ouma Odera (A to Z Textiles)	Johnson@vectorhealth.com	WASH
Woo-Seung Kim (HU)	wskim@hanyang.ac.tz	Energy, CO ₂ capture, and Desalination
Young-Ho Lee (KMOU)	lyh@kmou.ac.kr	Energy
Peter Mashingo (ATC)	mashingopp@hotmail.com	Energy
Jean-Marie Kileshye Onema (WaterNet)	jmkileshye-onema@waternetonline.org	Water
Stanley Leonard (MUST)	kifaamsuya@gmail.com	Water Resources
Charles B. Niwagaba (Makerere)	cniwagaba@tech.mak.ac.ug	WASH
Ibrahim Kabole (WaterAid TZ)	IbrahimKabole@wateraid.org	WASH
Simon L.C. Mdoe (TAEC)	slcmdoe@yahoo.com	Energy and water
Martine Nyeko (GU)	m.nyeko@gu.ac.ug	Hydrology and water resources
Kuzvinetsa Dzvimbo (VU)	kuzvinetsad@vut.ac.za	Energy
Dorothy Mukhebi (AWARD)	d.mukhebi@cgiar.org	Agricultural and Gender
Jan Willem Foppen (IHE Delft)	j.foppen@un-ihe.org	Hydrogeology
Peter Kossakowski (Mobisol TZ)	peter.kossakowski@plugintheworld.com	Energy