Center Title and Acronym: Africa Center of Excellence in Phytochemicals, Textile and Renewable Energy (PTRE)
Host University and Country: Moi University
Center Website Address: https://excellencecenter.mu.ac.ke/

Center Director and email address: Prof. Ambrose Kiprop; ambkiprop@gmail.com
Primary Thematic Discipline of Center: Analytical Chemistry, Textile Engineering, Industrial Engineering and Renewable Energy

Brief Description of Center:
The manufacturing sector is considered to be incidentally contributing just 10% of Kenyan Gross Domestic Product. However, the sector is expected to play a critical role in the economic growth of the country, where, an annual growth rate of 10% is envisaged under Kenya Vision 2030 for wealth and employment creation. The development of the manufacturing sector is expected to improve Kenya's competitiveness in the region by replacing external suppliers gradually since Eastern African markets are largely dominated by imports from outside the region. This development is expected to result in a robust, diversified, and competitive manufacturing sector capable of restructuring key local industries that use local raw materials. This will undoubtedly enable them to exploit opportunities in value addition to local agricultural produce such as cotton. To achieve this would require an increase in highly skilled personnel in the area of Science, Technology, Engineering and Mathematics (STEM) to facilitate manufacture of skill-intensive products of high value and quality. However, inadequacy in personnel with advanced training in textiles, phytochemicals and renewable energy fields has been confirmed. To address the shortage, the Center will support the training of 30 PhD students and 60 MSc students in areas of manufacturing involving Analytical Chemistry, Industrial Engineering, Textiles and Renewable Energy. It is envisioned that the Center will pool a vast expertise consisting of National, Regional and International partners to deliver on its mandate.

Key Objectives and Expected Outcomes:
To strengthen:

1. Education Capacity excellence in terms of quality postgraduate training.
2. Research Capacity excellence and outreach service in Phytochemicals, Textile and Renewable energy.
3. Innovation and technology development in the industrial and manufacturing sectors
4. Sustainability of research and training through enhancement of facilities.

Expected Outcomes:

1. Admit and train 30 PhD students and 60 MSc students in areas of manufacturing involving Analytical Chemistry, Textiles and Renewable Energy.
2. Procure, install and commission teaching and research facilities.
3. Develop a new curriculum for MSc in Phytochemistry.
4. Enhance learning environment at PTRE Center through ICT Upgrading.
5. Host at least 1 international conference.
6. Provided at least 4 community outreach services/extension.
7. Organize at least 3 re-tool workshops for faculty in areas relevant to curriculum delivery and supervision.
8. Make at least 50 publications by the end of the project period.
9. Organize for at least 50 student/staff exchange programs.
10. Collaborate with private sector/industries to grant internships to 90 ACE students and staff.
11. Develop and offer at least 4 short courses relevant to stakeholders needs.

Major Accomplishments to Date:

Institutional Readiness -The date of Credit Effectiveness was 1st February 2017. The disbursement of US$ 1.1 million due for the achievement of the DLI #1 in terms of DLR#1.1 (US$ 600,000) and DLR#1.2 (US$ 500,000) was received into PTRE Bank Account for the ACE II Project on 30th June, 2017.

Enrollment of students; The PTRE has admitted a total of 29 MSc and 13 PhD students into 4 programs; PhD in Renewable energy, MSc. in Renewable Energy, MSc. in Industrial Engineering and MSc. in Textile Engineering.

Table 1: Postgraduate students admitted in PTRE

	Target (July 2017 to 2018 June)	**Achieved**
Newly enrolled students into Masters level programs		
Total	27	29
National Male	12	14
National Female	6	8
Regional Male	6	7
Regional Female	3	0
Newly enrolled students into Doctoral level programs		
Total	17	13
National Male	8	9
National Female	4	3
Regional Male	3	1
Regional Female	2	0

Office space

The PTRE has secured office space for Center leadership office, Center Secretariat, Center Boardroom and Center Coordinators office and furniture procured.

Primary Regional and Global Partners:

Senior Faculty	**Email Address**	**Research Area**
Regional		
Dr. Wilson Babu Musinguzi	Wilson.musinguzi@gmail.com	Renewable Energy
Prof. S.M Elarabi	S_elarabi@yahoo.com	Textile Engineering
Dr. Abraham B. Nyoni	babsnyonidr@gmail.com	Textile Engineering
Dr. Moses Osiru	m.osiru@ruforum.org	Coordination
Global		
Prof. Philippe Gerardin	philippe.gerardin@univ-lorraine.fr	Analytical Chemistry
National		
Dr. Kenneth Chelule	dir@kirdi.go.ke	Technology
Mr. Dominic Wanjihia	biogasinternational@yahoo.com	Renewable Energy