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# Mount Kenya University

## Incubation Centre and Student Start-up Competition

Work Package 5.5





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## 1. Innovation Activities at MKU

Since its establishment, Mount Kenya University continues to promote innovation agenda by nurturing innovations from both members of staff and students across all academic disciplines. The MKU Vice-Chancellor Research and Innovation Grant established in 2013 has been a pillar in sponsoring innovators through the internal student competitions enabling them work on their prototype by providing a seed grant. The student innovators has also gotten a chance to showcase their innovations during the Agricultural Society of Kenya (ASK) and the National Commission for Science, Technology and Innovation (NACOSTI) Science week which are organized yearly. These efforts has yielded 20 innovations from both students and staff. The innovators in collaboration with MKU have registered for patents at the Kenya Industrial Property Institute (KIPI).

In this regard, with the expansion of the MKU Incubation Centre in collaboration with AHEAD project (2017-2021), the university aims at promoting innovation activities not only among its students and staff but also external stakeholders through student innovation competitions. These efforts will ensure that MKU contribute towards providing innovative solutions to increasingly societal challenges.

Table 1: List of MKU registered patents

No.	Innovation Code	Name of the Innovator	Title of the Innovation	Description
1	MKU_20-21:001	Dr. Jesse Gitaka	Point of Care Diagnostic Kit for Group B Streptococcus	Development and deployment of a point of care diagnostic for bacterial infections that have been implicated in poor pregnancy outcomes such as premature deliveries, still births, maternal and newborn sepsis and deaths



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2	MKU_20-21:002	Dr. Peter G. Kirira, Dr. Joseph K. Ng'ang'a, Ms. Milka Wambui, Mr. Joseph Njoka, Prof. Daniel Kariuki, Dr. Johnson Kinyua and Dr. Francis Muregi.	Synthesis protocol	Artesunate-3-chloro-4-(4-chlorophenoxy)aniline antimalarial hybrid drug
3	MKU_20-21:003	Dr. Peter G. Kirira, Dr. Joseph K. Ng'ang'a, Mr. Jean B. Niyibizi, and Dr. Francis Kimani.	Synthesis protocol	Synthesis and antimalarial hybrid composition comprising of sarcosine and aniline pharmacophores as scaffolds
4	MKU_20-21:004	Donatus Njoroge	Molepse Bioresources	Development, optimization, and characterization of a Multi-Target Novel bio-pesticide product.
5	MKU_20-21:005	Dr. Mary Muriuki	MD Helper Platform	Development of A Personalized Nutrient-Based Meal Recommender System
6	MKU_20-21:006	Dr. Jese Gitaka, Donatus Njoroge, Gideon Kamau	KoviTrace	A Covid-19 Contact Tracing system
7	MKU_20-21:007	Donatus Njoroge, Elvis Moraa	Coffee Africa	Block chain Powered Coffee E-marketplace.
8	MKU_20-21:008	Donatus Njoroge	Waste2Wealth	Bags from recycled drinking straws
9	MKU_20-21:009	Peter Mithamo	Smart taps	e-taps powered by solar energy
10	MKU_20-	Peter Mithamo	Tenant's	Remote powered keys for



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	21:010		electronic key	residential
11	MKU_20-21:011	Richard Sailors, Donatus Njoroge	Providence Sustainable Agriculture (PSA)	Development of Animal feed from Water Hyacinth
12	MKU_20-21:012	Peter Mithamo	Vegy organics	Development of a carbon negative, organic fertilizer
13	MKU_20-21:013	Joseph Gakuru	Qytron Vents	locally made hospital ventilator
14	MKU_20-21:014	Peter Mithamo	Humidifying device	Green house moisture concentrator
15	MKU_20-21:015	John Mwangi	SMART animal shed	A device used to categorize animals in large scale production, heifers from bulls, calves, vaccinated and non-vaccinated.
16	MKU_20-21:016	Hosea Mungai	Shop Space	E-commerce platform for fast moving goods
17	MKU_20-21:017	Billy Okeyo, Daniel Dennis, Sandra Kuria, Catherine Ratemo	Eyero	A machine learning-based mobile application to detect cataracts in eyes.
18	MKU_20-21:018	Hosea Mungai	Lipa Fees	A Fintech solution designed for ease of fees payment
19	MKU_20-21:019	Dickson Muchangi Mwaniki	Economy Water Distiller	Energy efficient large scale water distiller
20	MKU20-21:020	Dr. Peter G. Kirira, Dr. Joseph K. Ng'ang'a, Ms. Fiona Oyatsi, Dr. Jeremiah Gathirwa and Prof. Francis Muregi.	Synthesis protocol	Synthesis of N-(2-(7-chloroquinolin-4-yl)amino)ethyl)-4-(dipropylsulfamoyl)benzamide



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## **2. Innovation activities undertaken in 2021 during the establishment of the Incubation Centre**

Innovation activities spearheaded by the Head, Innovation, Intellectual Property and Community Engagement Office continue to be undertaken by students in order to promote innovation at MKU. These innovation activities were boosted by the donation of innovation equipment by the AHEAD project to be utilized in incubation centre. During the establishment of the incubation centre, several innovation activities were also undertaken.

1. Training innovative students on Intellectual Property protection
2. Student idea Pitching
3. Provision of resources to innovative students including; working spaces, laptops, internet, etc
4. Matching innovative students with mentors
5. Circulation of innovation grant calls to students – to enable them apply for seed grant
6. Exhibition space during MKU career week
7. Encouraging students to joint MKU Research and Innovation Student Association (MKURISA)
8. Funding student Clubs/Associations – to carry out innovative projects



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### 3. Incubation Centre

Mount Kenya University has completed the establishment of the Incubation Centre (*i-hub*) co-founded by the AHEAD project (2017-2021). The Centre was an expansion of the existing facility established in 2013 to enable MKU realize the potential of innovators among its students and faculty members. To ensure the university attracts more innovators, the Incubation Centre will also be utilized by external stakeholders at no cost.

#### Selected photos of the Incubation Centre at MKU



*Fig 1: A group photo of students and staff at the Incubation Centre*



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**Fig 2:** A label on the Incubation Centre door showing partnership between MKU and AHEAD project



**Fig 3:** Students working in the Incubation Centre

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*Fig 4: Mr Donatus Njorege (Head, Innovation, Intellectual Property and Community Engagement) mentoring students using the Interactive WhiteBoard*





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*Fig 5: A student using Interactive WhiteBoard during innovation mentorship session.*

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