



MACHAKOS UNIVERSITY

Co-Creating Sustainable Futures

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MACHAKOS UNIVERSITY 2024 HACKATHON FEST

Machakos University celebrated the exceptional achievements of its students during the 2nd Edition of the Machakos University Hackfest 2024, held from November 5th–7th at the University Luban Workshop. This 3-day event organized in partnership with Machakos University Innovation Club, Microsoft Learn Students Ambassadors, Google Developer Groups on Campus, and Techo-Engineering Association, provided a platform for students from diverse backgrounds to develop sustainable solutions for real-world challenges.

The Hackfest was officially opened by Prof. Stanley Makindi, Acting Deputy Vice-Chancellor for Research, Innovation, and Linkages, who delivered remarks on behalf of the Vice-Chancellor Prof. Joyce Agalo. Prof. Makindi underscored the critical role of innovation in academia and industry, encouraging participants to embrace collaboration and creative problem-solving throughout the event.

The opening ceremony featured keynote addresses by industry leaders who shared their insights on critical themes impacting modern technology and entrepreneurship. Eng. James Nyamai delivered an engaging talk on “Reshaping Infrastructure: The Role of Smart Technology in Modern Engineering,” while Mr. Allan Mwangi inspired participants with his talk on “Building Sustainable Startups: Turning Creative Visions into Impactful Ventures.”

This year’s Hackfest, themed “Sustainability in Engineering Technology Solutions,” focused on categories such as Water, Agriculture, Education, Health, Energy, Transportation, and “Out of the Box.” Over 18 teams participated, showcasing AI-driven solutions that highlighted their technical expertise, teamwork, and creativity.

Top Achievements

The competition culminated in three standout teams being recognized for their groundbreaking projects:

- 1st Place: Phoenix Team (Education Category), led by Mr. Kelly Melchir, with their innovative “Classmate” app. This AI-powered educational tool enhances student-lecturer interactions through dual interfaces, announcements, automatic scheduling, AI-assisted revision, progress tracking, and seamless onboarding. The App streamlines communication, enhances revision, and tracks academic progress creating a modern digital learning environment.



- **2nd Place: Fanaka Farm Team:** The Fanaka Farm Team secured second place with an AI-powered agricultural solution aimed at transforming farming for both large- and small-scale farmers. This project addresses key challenges, including poor storage, ineffective post-harvest practices, limited access to farm machinery, and insufficient knowledge of smart farming techniques. By providing access to modern technologies, equipment rentals, live market connections, and price negotiation support, Fanaka empowers farmers to enhance efficiency and maximize profits.

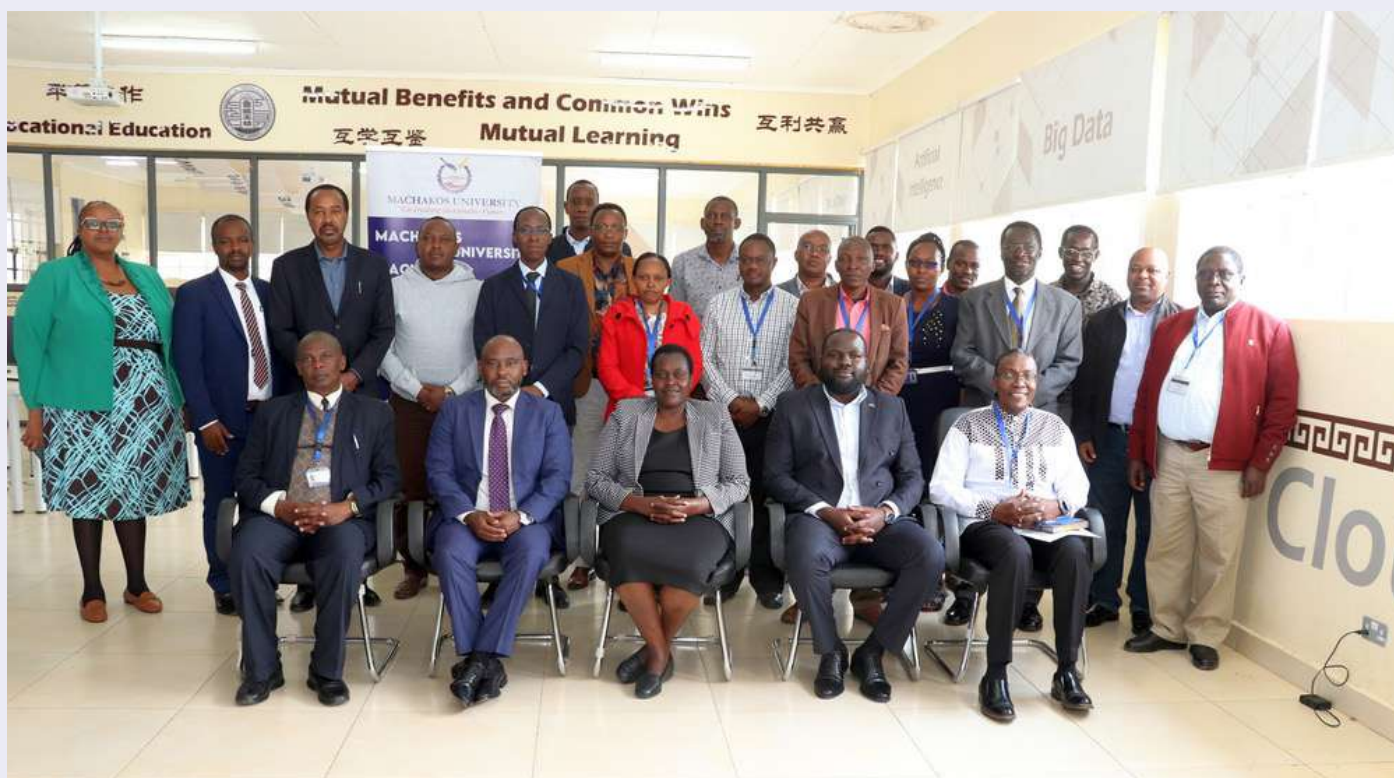


- **3rd Place: Great Core Team:** Claiming third place, the Great Core Team introduced “Serenity,” an AI-powered mobile application focused on improving mental health care accessibility. Developed to address rising mental health challenges in Kenya, particularly among students, Serenity offers a personalized mental health assistant. It provides users with a safe space for conversations, guidance, and immediate support, making mental health care more accessible and, reducing barriers to getting help.



The MKSU Hackfest 2024, reinforced Machakos University’s commitment to nurturing talent and fostering innovation, ensuring students are well-equipped to address real-world challenges with cutting-edge solutions.

MKSU AND LONGHORN PUBLISHERS PROPOSE DIGITAL CONTENT COLLABORATION



(Seated from left to right) Prof. Richard Kimiti, Mr. Maxwell Wahome, the Vice Chancellor Prof. Joyce Agalo, Mr. James Ong'ang'a and Prof. Mugendi M'Rithaa

The Management of Machakos University led by the Vice Chancellor Prof. Joyce Agalo and Deans of Schools held a consultative meeting on 18th November 2024 with the Chief Executive Officer from LongHorn Publisher Mr. Maxwell Wahome and LoHo Learning Chief Executive Officer Mr. James Ong'ang'a to explore collaboration avenues in creating digital learning content for tertiary education. The meeting focused on leveraging LoHo Learning Platform and enhancing the University's Open, Distance, and E-Learning (ODEL) programmes, while aligning the institution's academic offerings with the Competency-Based Curriculum (CBC).

Acknowledging the necessity of digital transformation, the partnership will aim to develop practical and applicable content for the LoHo Learning Platform through a Memorandum of Understanding (MOU). Deans and lecturers from Machakos University will actively participate in this initiative by ensuring that students benefit from quality digital resources and practical sessions designed to meet modern educational demands.

During the meeting, the Vice-Chancellor Prof. Joyce Agalo emphasized the importance of introducing short courses that will equip graduates with skills relevant to emerging job markets, including opportunities outside Kenya. This aligns with the government's efforts to establish bilateral labor agreements globally. Deans from respective school will develop proposals for the courses for implementation as part of the University's strategy to enhance graduate employability.

This collaboration represents a significant step toward co-creating sustainable futures by integrating technology into education and preparing graduates for a dynamic global workforce.

MACHAKOS UNIVERSITY ADVANCES ENVIRONMENTAL CONSERVATION THROUGH TREE GROWING INITIATIVE AT KONZA TECHNOPOLOS DEVELOPMENT AUTHORITY



Machakos University took undertook an environmental conservation and sustainability by spearheading a significant tree-growing initiative at Konza Technopolis Development on Friday, 15th November 2024. The event, conducted in collaboration with Konza Technopolis Development (KoTDA), the Kenya Forest Service (KFS) led by the Ecosystem Conservator, and Machakos County Government, emphasized the University's commitment to fostering sustainable practices and strengthening inter-institutional partnerships.

The event marked the first tree-growing exercise undertaken by Machakos University at Konza Technopolis Development Authority. The project aimed to promote environmental conservation while leveraging the existing collaboration between the two institutions. The activity, hosted at the designated 'Nurture Park' area, was led by Mr. John Okwiri, OGW, the Chief Executive Officer of Konza Technopolis, alongside Prof. Peter Koech, representing the Vice-Chancellor of Machakos University Prof. Joyce Agalo.

The target of planting over 10,000 trees was successfully achieved, symbolizing a shared commitment to a sustainable future. The initiative aligns with the national agenda to plant 15 billion trees by 2032, further demonstrating the University's role in supporting government efforts in advancing ecological sustainability.

The tree-growing exercise commenced with Mr. John Okwiri, OGW, CEO of Konza Technopolis, extended a heartfelt appreciation to Machakos University for choosing Konza Technopolis as the site for this impactful exercise. Mr. John noted that the ‘Nurture Park,’ designated for tree planting exercise, embodies Konza’s vision as a smart city committed to sustainable development. He assured the University of exemplary care for the planted trees and expressed enthusiasm for continued collaboration between the two institutions.

Following was remarks by Ms. Milkah Mutua, the Ecosystem Conservator emphasizing the critical importance of tree planting for cleaner environments and sustainability. She reiterated the government’s vision for massive tree planting to combat climate change and restore Kenya’s natural ecosystems.

Prof. Peter Koech, representing the Vice-Chancellor, highlighted that this initiative exemplified the spirit of collaboration between Machakos University and Konza Technopolis Development Authority (KoTDA). Prof. Koech underscored the alignment of the tree planting exercise with the Government’s agenda and its reflection of the University’s collective duty to restore and preserve the environment. Prof. Koech also noted that balancing technological innovation with ecological responsibility is key to nurturing both knowledge and natural heritage. Prof. Koech expressed deep gratitude to all participants and reaffirmed the University’s commitment to future tree-growing initiatives.

The tree growing at Konza Technopolis has reinforced Machakos University dedication to environmental stewardship while strengthening partnerships that align with both national and global sustainability goals.



Prof. Peter Koech, representing Machakos University Vice Chancellor Prof. Joyce Agalo, delivering a speech



Mr. John Okwiri, OGW, CEO of Konza Technopolis delivering remarks



*Ms. Milkah Mutua, the Ecosystem Conservator,
delivering brief remarks*



MINISTRY OF HEALTH COUNTY SENSITIZATION ON DRUG AND SUBSTANCE ABUSE CONTROL PUBLIC AWARENESS CAMPAIGN AND COURTESY CALL TO THE VICE CHANCELLOR OF MACHAKOS UNIVERSITY



The Ministry of Health, through the State Department for Public Health and Professional Standards, has launched a series of workshops aimed at addressing drug and substance abuse in all counties. The inaugural three-day workshop was held in Machakos County and concluded on November 20th, 2024, with a highly attended public awareness event at the Machakos University Hotel and Grounds. The event, the first of ten planned nationwide, attracted over 1,000 participants, underscoring its significance and the public's commitment to combatting this critical issue.

Key stakeholders including healthcare workers, community health promoters, enforcement officers, and members of the public participated in the workshop. The sessions focused on sensitizing attendees to the pressing need for collective action against drug and substance abuse while equipping them with tools to address the challenge effectively.

On the final day, officials from the Ministry of Health paid a courtesy visit to the Vice Chancellor of Machakos University. During the meeting, critical aspects of the County Sensitization on Drug and Substance Abuse Control program, were discussed including:

1. Strategies to address drug and substance abuse effectively.
2. Rationale for Drugs and Substance Control
3. Legislative measures for combating drug and substance abuse.
4. Approaches to support affected individuals.
5. Collaborative efforts to strengthen interventions.
6. Tobacco Control: Including rationale, legislative frameworks, and emerging tobacco products (NENTPs).
7. Promoting unity among key players in the fight against substance abuse.

A key highlight of the discussions was the Ministry's proposal to collaborate with Machakos University in creating and rolling out short courses on drug abuse awareness, prevention, and counseling. The program will aim to train and certify healthcare workers, community health promoters, and the public in Machakos County and its neighboring regions.

The workshop was a significant step toward fostering a multisectoral approach to tackling drug and substance abuse. Machakos University remains committed to supporting initiatives that promote public health and empower local communities.



Prof. Richard Kimiti, representing the Vice Chancellor of Machakos University during the courtesy call





COMMISSIONING OF MACHAKOS UNIVERSITY MEDICAL EMERGENCY AMBULANCE



In a significant step towards strengthening health services for its community, Machakos University inaugurated a new, modern ambulance on 28th October 2024. The ceremony was presided over by the Chairman of Council, Dr. Christopher Gatama Gakahu, marking a milestone in the University's commitment to improving emergency medical response for staff and students within the campus and surrounding areas.

The addition of this advanced ambulance is a major boost to the University Health Unit Clinic. The ambulance is designed to address a wide range of medical emergencies, and is equipped with an array of emergency and life-support systems, including:

- A Stretcher Base with Loading Ramp for safe and efficient patient evacuation.
- Collapsible/Foldable Steel Stretcher for convenient handling during emergencies.
- Oxygen Unit Set, Suction Machine, and Resuscitation Tools for immediate and onsite care.
- Spine Board, Cervical Collar, and Head Immobilizer to stabilize patients with potential spinal injuries.
- Medical Communications and Navigation Systems for seamless coordination during emergency response.
- Comprehensive First Aid Kit and Transfer Sheet to facilitate initial care and patient transfer.

The emergency service will operate on a 24/7 hour and will provide two core services including; Basic Life Support Services to ensure safe transportation for patients not requiring critical care and Advanced Critical Life Support Services to facilitate the evacuation and transfer of critically ill patients requiring continuous advanced care.

This modern ambulance not only enhances the University's health service capacity but also reflects the dedication of fostering a sense of Co-creating sustainable futures.



Machakos University Vice Chancellor, Prof. Joyce Agalo, addressing staff and students during the event



Student Association of Machakos University (SAMU) President, Mr. Emanuel Yogo, delivering his remarks



Machakos University Council Chairman, Dr. Christopher Gatama Gakahu, addressing the audience



The Vice Chancellor, Prof. Joyce Agalo, officially flags off the newly inaugurated ambulance



Staff members from the Transport and Health Clinic Departments



CELEBRATING SUCCESS: MACHAKOS UNIVERSITY TRAVELING THEATRE CLUB QUALIFIES SIX ENTRIES FOR THE NATIONAL KENYA UNIVERSITIES PERFORMING ARTS ASSOCIATION (KUPAA) FESTIVALS

The Traveling Theatre Club from Machakos University presented six certificate awards to the Vice Chancellor, Prof. Joyce Agalo from the 6th Kenya Universities Performing Arts Association (KUPAA) Metropolitan, Nairobi Regional Festivals, held at Multimedia University from October 26th and 27th, 2024.

Machakos University entered eight diverse performances across various genres, including; Solo Verse, Narrative, Spoken Word, Legislative Play (English), Historical Play, Kiswahili Play, Praise Poetry, and Spoken Word.

The dedication and hard work of our students paid off, as six of these entries qualified for the upcoming National KUPAA Festivals to be held at Egerton University from November 8th to 15th, 2024. The entries that advanced to the national stage include:

- Kiswahili Play (1st position)
- Historical Play (2nd position)
- Praise Poetry (2nd position)
- Spoken Word (2nd position)

Legislative Plays: English (1st position) and Kiswahili (3rd position)

This impressive achievement marks a significant improvement from last year's festival, where Machakos University had four entries qualify for the national stage at Dedan Kimathi University of Technology. The students' unwavering commitment to the arts is evident, and the zeal are eager to bring their passion and creativity to the national platform.

As the team prepares for the upcoming national festivals, the Traveling Theatre Club continues to foster a vibrant culture of performance and expression at Machakos University. The University is proud and looks forward to the continued success in the realm of drama and the performing arts.



Dr. Vifu Makoti, Ph.D., Patron of the Machakos University Traveling Theatre, presenting award certificate to Prof. Joyce Agalo, the Vice Chancellor of Machakos University.



The Traveling Theater student representatives (from left to right): Brian Mugambi (Chair), Edwin Omukenya (Director), Canon Mwaura (Secretary), Sabina Njeru (Vice Chair), Dr. Vifu Makoti (Club Patron), Prof. Joyce Agalo (Vice Chancellor), Prof. Richard Kimiti (representing the DVC ASA), and Prof. Peter Kibet Koech (representing the DVC RIL)

FEATURED RESEARCHER FOR NOVEMBER 2024



Dr Elijah Muange is an agriculturalist specializing in agricultural economics and rural development. He has vast experience in agricultural research and training in Eastern Africa. His experience and interests are in technology research, dissemination and adoption; food and nutrition security, the role of information dissemination in agriculture; use of social networks and ICT in agricultural information dissemination; the interaction between agriculture, technology and nutrition; agricultural marketing; project evaluations; and impact assessments.

Dr. Muange is currently a Lecturer and Chairman at the Department of Agricultural Sciences, Machakos University, where he teaches Agricultural Microeconomics, Production Economics, Marketing, International Trade, Research Methods, Statistics, and Quantitative Techniques. Dr. Muange holds a PhD in Agricultural Sciences (Agricultural Economics & Rural Development) from the University of Gottingen; and MSc Agricultural & Applied Economics and BSc Agriculture (Agricultural Economics Major) from the University of Nairobi. He has published widely.

Ongoing research

- Creating Synergy in the Irish Potato Value Chain for Quality Seed, Potatoes and Market Development in Kenya
- Castor Farming and Effects on Household Income in Makueni County
- Rabbit Meat Perceptions and Consumption among Households in Nakuru County
- Adoption and Impact of Climate-Smart Agriculture in Southeastern Kenya
- Commercialization and Impact of Green Grams among Smallholder Farmers in Southeastern Kenya



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