



Research and Innovation News

A Publication from the Division of
Research, Innovation and Outreach

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UNIVERSITY FUNDAMENTAL STATEMENTS



VISION STATEMENT

A dynamic, inclusive and competitive Centre of excellence in teaching, learning, research and service to humanity.



PHILOSOPHY STATEMENT

Sensitivity and responsiveness to societal needs and the right of every person to knowledge.



IDENTITY STATEMENT

A community of scholars committed to the generation and dissemination of knowledge and cultivation of wisdom for the welfare of society.



MISSION STATEMENT

To provide quality education and training, promote scholarship, service, innovation and creativity and inculcate moral values for sustainable individual and societal development.



CORE VALUES

Effective service, Professionalism, Integrity, Impartiality, Stewardship and Accountability.

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EDITORIAL



It gives me great pleasure to present to our readers the 16th edition of the Kenyatta University Research Newsletter. This publication is particularly significant as it coincides with the 40th anniversary of the University's official inauguration in 1985. As we reflect on four decades of growth and transformation,

this Newsletter offers a unique opportunity to appreciate, in a consolidated format, the breadth and vibrancy of the research being undertaken across the University.

This edition is especially rich in content, featuring a diverse range of research and innovation initiatives. Among the highlighted works is an insightful article by Prof. Ezekiel Njeru on soil quality and fertility management - an area of persistent global concern. Complementing this is a feature on *Pollen Patrollers*, an Artificial Intelligence-driven agri-tech innovation pioneered by Margaret Wanjiku and incubated at the Chandaria Business Innovation and Incubation Centre. This groundbreaking project leverages drone technology to prevent the collapse of beehives, thereby safeguarding traditional pollinators essential to agricultural ecosystems. These examples represent just two of the more than twenty compelling articles in this issue.

In addition to research and innovation, this edition highlights an array of student activities

and notable staff achievements. We proudly celebrate the election of Prof. John Mugubi, Associate Professor of Film and Theatre Arts, as Chair of the African Chapter of the World Association of Film and Television Schools (CILECT). Equally commendable is the appointment of Dr. Shem Wambugu, Senior Lecturer in the Department of Hospitality and Tourism Management, to Emerald Publishing's newly established Neuroinclusive Publishing Environment Advisory Board. These recognitions bring great honour to the individuals and reaffirm our institutional excellence and global engagement. Moreover, our students also feature prominently, with stories of international exchange programmes and exceptional accomplishments that exemplify the University's commitment to nurturing globally competitive graduates.

I encourage all our readers to explore each article in this edition and gain a full appreciation of the outstanding work being carried out by our researchers, innovators, staff and students. Their contributions continue to elevate Kenyatta University's standing as a centre of excellence in research, innovation, and scholarship. Furthermore, I extend my heartfelt gratitude to the editorial and review teams for their dedication and hard work in producing this Newsletter.

Finally, on behalf of the Editorial team, I congratulate our December 2025 graduands and extend my best wishes for joy and prosperity in their future endeavours.

Prof. Willis J. Ambusso

Ag Registrar, (Research, Innovation and Outreach)





Message from the Vice Chancellor

Times Higher Education World University Rankings, reaffirming our standing in the global academic community. This prestigious recognition demonstrates that the research, innovations, and ideas originating from our University are visible, respected, and valued internationally. It signals that Kenyan scholarship is strong, competitive, and ready for deeper global partnerships.

Our achievements extend beyond international rankings. In 2025, the University received “The Best University Stand” trophy in the ASK International Trade Fair. It also received the Bronze Mark of Excellence at the 17th CIO100 Symposium & Awards, a tribute to our leadership in digital transformation. This honour celebrated pioneering projects such as “Tour Kenya: Search, Explore and Discover”, an innovative platform designed to support local economic growth through digital tourism. Initiatives such as this illustrate our commitment to research that tackles real-world challenges and expands opportunities for Kenyan communities.

Through the Division of Research, Innovation and Outreach (RIO), we continue to widen the reach of our research and promote work that responds directly to national priorities. Our projects span diverse fields - from strengthening food security through local value-chain research, to advancing public health and social innovations, to supporting young innovators through technology-driven solutions. The results of these efforts are visible in policy dialogues, community projects, industrial partnerships, and student enterprises that contribute meaningfully to Kenya's development agenda.

I take great pride in witnessing the transformation of our research culture.

Our research systems have grown stronger, collaboration across disciplines has deepened, and bold ideas from staff and students continue to take shape. Our scholars are increasingly visible on the global stage, demonstrating that excellence and innovation are thriving here at Kenyatta University. These milestones affirm that our mission and vision remain focused and impactful.

To our faculty, researchers, students, alumni, the Government of Kenya, our partners, and all stakeholders: thank you. Your commitment, trust, and support continue to drive this University forward. Together, we are advancing research, inspiring new ideas, and serving our communities with purpose. Let us build on this momentum with renewed energy—grounded in creativity, innovation, and a shared belief in the transformative power of education.

I extend heartfelt congratulations to the graduating class. We send you into the world with confidence, knowing you carry the skills, values, and global outlook that define Kenyatta University. May your next steps be marked by excellence, integrity, and meaningful impact.

On behalf of the Kenyatta University Management Team, I wish the entire Kenyatta University community a joyful festive season and a successful 2026.

Congratulations to the Class of 2025 and to every member of the Kenyatta University family.

Prof. Paul Wainaina

Vice Chancellor
Kenyatta University

As Kenyatta University marks its 40 years since attaining full university status in 1985, we celebrate a remarkable journey of growth, discovery, and public service. Our history reflects the power of collective dedication and the belief that knowledge, when shared, transforms society.

Over the past four decades, Kenyatta University has risen to become one of the leading research institutions in Kenya and the wider region. Our scholars, researchers, and students have developed ideas that shape science, education, technology, culture, and public policy. Their work reaches far beyond our campus and continues to influence communities across Kenya and around the world.

Today, Kenyatta University stands proud as the top-ranked university in Kenya in the 2026



Message from the Deputy Vice-Chancellor (Research, Innovation and Outreach)

As we celebrate the 58th Graduation Ceremony, we also mark a historic milestone in the life of Kenyatta University — 40 years since our inauguration in December 1985. From three pioneering faculties of Education, Science, and Arts, KU has grown into a vibrant research university with 9 Schools, 74 departments, and a strong network of partners advancing Kenya's development. This transformation reflects strategic leadership and the dedication of our faculty, researchers, students, technical staff, and collaborators, who continue to shape a university that delivers knowledge for national progress and global impact.

The theme “Innovating Education and Research for the Digital World” captures KU’s unwavering commitment to the future of learning and discovery. Across the University, scholars are leading impactful research in data science, sustainable energy, digital health, climate-smart agriculture, women’s economic empowerment, and immersive education technologies, generating evidence that informs policy and drives innovation. Through the Division of Research, Innovation & Outreach (RIO), we continue to strengthen systems that support excellence — from grants management and IP protection to industry partnerships and innovation acceleration — enabling our researchers to create knowledge with purpose.

We are proud that KU was ranked **the Number 1 University in Kenya in the 2026 Times Higher Education World University Rankings** for the second year in a row. This achievement reflects a strong portfolio of high-impact publications, international collaborations, research funding, innovation outputs, and

community impact. As we celebrate our graduates a new generation of scholars, leaders, and innovators, I extend my deepest appreciation to the entire KU community. Your resilience and passion over the last 40 years have defined our success. Let us continue to innovate boldly, collaborate widely, and lead confidently, ensuring that Kenyatta University remains a flagship of African innovation.

Hongera sana to the graduands of the 58th Graduation Ceremony!

Prof. Caroline Thoruwa
Deputy Vice-Chancellor
Research, Innovation & Outreach (RIO)
Kenyatta University

ANNOUNCEMENT

Kenyatta University to Host January 2026 sandpit

Kenyatta University is scheduled to host the Global Entrepreneurial Talent Management 4 (GETM4) sandpit from 19th to 23rd January, 2026. The Global Entrepreneurial Talent Management 4 (GETM4) is an international, interdisciplinary research and innovation project funded by the European Union's Horizon, UKRI and the South Korean Education Ministry to the tune of 1.5 million euros over four years.

The sandpit will bring together researchers and professionals from different disciplines, cultures, generation, gender and sectors to share ideas, foster innovation, and advance research in entrepreneurial talent management. Other sandpits have taken place in Ireland, the UK, Slovenia, Poland, Chile, South Korea and Estonia, focusing on topics like generative AI, workplace well-being, digital innovation, and creativity.

The theme of the 2026 sandpit will explore the areas of Individual Entrepreneurship, Higher Education Innovation, Industry Impact and Community and Society.

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Prof. Ambrose Jagongo (PI)

Department of Accounting and Finance



Prof. Fredrick Ndeda (PI)

Department of Accounting and Finance

Research Awards/ Recognition



Kenyatta University Professor Elected Chair of CILECT Africa



Kenyatta University proudly congratulates Prof. John Geoffrey Mugubi on his election, by an overwhelming majority, as the Chair of the African Chapter of the World Association of Film and Television Schools (CILECT Africa). The election took place during the CILECT Annual Congress held recently in Guadalajara, Mexico, where film and television educators from across the globe gathered to shape the future of screen education.

This prestigious appointment is a testament to Prof. Mugubi's outstanding leadership in film and creative arts education, as well as his unwavering dedication to advancing cinematic scholarship, innovation, and collaboration across Africa.

In his new role, Prof. Mugubi will represent African film and television schools within the global CILECT network, championing creative excellence, inclusivity, and the growth of Africa's vibrant screen industries.



“In his new role, Prof. Mugubi will represent African film and television schools within the global CILECT network, championing creative excellence, inclusivity, and the growth of Africa's vibrant screen industries.”

Dr. Shem Wambugu Maingi appointed to Emerald Publishing (UK)'s Global Neuroinclusive Publishing Environment Advisory Board

Dr. Shem Wambugu Maingi, a Senior Lecturer in the Department of Hospitality and Tourism Management was appointed to Emerald Publishing's newly established Neuroinclusive Publishing Environment Advisory Board. Emerald Publishing, a leading UK-based research publisher with a 50-year history, has created this advisory board to lead transformative change in academic publishing.

The board's mission is to advance support for neurodivergent authors, editors, and reviewers, ensuring academic publishing becomes more accessible, equitable, and inclusive. Emerald publishing acknowledges the idea that scholars experience the world differently and especially people with neurodivergent conditions such as ADHD, autism, dyslexia and dyspraxia. The dedicated Advisory

Board was formed to support neurodivergent authors, editors, and reviewers in academic publishing to ensure that their voices are platformed and prioritized.

Dr. Shem Maingi's roles as part of the advisory board encompass advocacy and support, training and education, policy development, resource creation, feedback and improvement, complaints process liaison and product development. This appointment not only recognizes individual achievement but also shines a light on Kenyatta University's leadership in academic research and publishing across Africa.



The Balearica Africa Tourism Awards 2025



**A win for
resilience.
A win for
Africa.**

The Global Tourism Resilience and Crisis Management Centre (GTRCMC) was honoured with the “Most Supportive Brand Award” at the Africa Tourism Awards 2025 (The Balearica Awards) - held at the Hilton London Canary Wharf on November 2, 2025.

This prestigious recognition celebrates GTRCMC's visionary leadership, innovation, and unwavering commitment to building resilience, sustainability, and collaboration within Africa's tourism sector and beyond.

Hosted at Kenyatta University, the Regional Centre, GTRCMC–Eastern Africa, continues to empower communities, strengthen institutions, and shape the future of tourism through transformative programmes, strategic partnerships, and global impact initiatives.

Kenyatta University Shines at CIO100 Awards 2025



Kenyatta University is proud to receive the Bronze Mark of Excellence at the 17th CIO100 Symposium & Awards 2025, placing her among Africa's Top technology leaders driving meaningful digital transformation and innovation.

KU's finalist project, **"Tour Kenya: Search, Explore and Discover,"** showcases over a decade of research and GIS innovation—mapping thousands of tourism products across all 47 counties and unveiling Kenya's rich tourism landscape through interactive digital platforms.

This recognition affirms KU's commitment to research excellence, digital leadership, and sustainable development. The next phase will focus on validating geospatial data, identifying market-ready tourism products, and integrating refined content into national and global platforms such as Magical Kenya.

A proud milestone for Kenyatta University in shaping Africa's digital and tourism future.



Global Education Award 2025



Members of the 3Is project from partner institutions.

This award is a powerful testament to what collaboration, inclusivity, and visionary leadership can achieve.

Kenyatta University Celebrates a Landmark Achievement! The 3is Project – **Impactful, Inclusive, Integrated Higher Education in Eastern Africa** was awarded the 2025 Global Education Award under the Transformative Pedagogy category.

This prestigious recognition celebrates the project's remarkable work in reshaping higher education across Kenya, Ethiopia, and Somalia. Kenyatta University is honoured to serve as a lead partner in this transformative journey.

Launched in 2024 and supported by the Erasmus+ Programme of the European Union, the 3is Project brought together 22 partners from Spain, Greece, Kenya, Ethiopia, and Somalia. Together, they championed:

- ✦ Internationalization
- ✦ Inclusiveness
- ✦ Educational innovation & academic excellence
- ✦ Community & industry engagement
- ✦ Regional integration

Guided by the principle that “Every Voice Matters,” the project ensured that historically marginalized institutions and communities played a central role in shaping a more equitable higher education landscape.

From groundbreaking workshops in Nairobi, Addis Ababa, Gondar, Puntland, Hargeisa, Girona, Turkana, and Garissa, to strengthened collaborations with universities and agencies across Eastern Africa, the project has created a lasting legacy of innovation, resilience, and cross-border unity.

As we look to the future, the 3is legacy will continue to influence policy, empower students with digital and practical skills, foster industry-aligned programs, and deepen community engagement across the region.

This award is a powerful testament to what collaboration, inclusivity, and visionary leadership can achieve.

Together, we are building futures, bridging borders, and transforming higher education in Eastern Africa.

GTRCMC-EA: A Key Partner Driving Innovation and Resilience at Africa MICE Summit 2025



Key Industry stakeholders and partners led by Dr. Esther Munyiri 2nd from right.

The Global Tourism Resilience and Crisis Management Centre – Eastern Africa (GTRCMC-EA), hosted at Kenyatta University, joined Zuri Events and other leaders as a key partner at the Africa MICE Summit 2025, held from 9th–11th September 2025 at the Kenyatta International Convention Centre (KICC), Nairobi. The summit brought together over 500 delegates, over 25 speakers, and leaders from over 20 countries, under the theme “Catalyzing Trade and Investment through Business Events.” From driving conversations on resilience, sustainability, and digital transformation, to spotlighting youth-led innovation at the Innovations Hub, GTRCMC-EA reaffirmed its leadership in shaping Africa’s tourism and MICE future.

#AMS2025

KU Wins Best University Stand at 2025 Nairobi International Trade Fair



President William Ruto hands over the trophy for best University stand at the 2025 Nairobi International Trade Fair to Kenyatta University VC, Prof. Paul Wainaina, during the trophy presentation ceremony at the showground arena.

Kenyatta University Shines during Nairobi International Trade Fair 2025

Kenyatta University emerged as the Overall Best University Stand and the Best Overall Education and Research Stand, excellently interpreting the theme of the show at the recently concluded Nairobi International Trade Fair 2025, held at the Jamhuri Park Showground from 29th September to 5th October 2025, a testament to our commitment to innovation, research, and excellence.





Innovation News



Bee pollination.

Pollen Patrollers is emerging as a transformative force in pollinator protection and food security at a time when bee colonies are collapsing at unprecedented rates—40% globally and up to 60% annually in parts of Africa—threatening the 80% of food crops that depend on bee pollination. Incubated at the Chandaria Business Innovation and Incubation Centre, the startup is pioneering an affordable, AI- and IoT-driven approach to revive bee populations and strengthen smallholder farming systems. Founded by agritech innovator Magrate Wanjiku, Pollen Patrollers has developed IoT-enabled smart hives that remotely track temperature, humidity, weight, hive activity, and visual bee behavior, sending real-time alerts on colony health, theft, or abnormal changes while offering exportable historical data for deeper hive performance insights.

Pollen Patrollers Deploys AI and Smart Hives to Counter Bee Colony Collapse

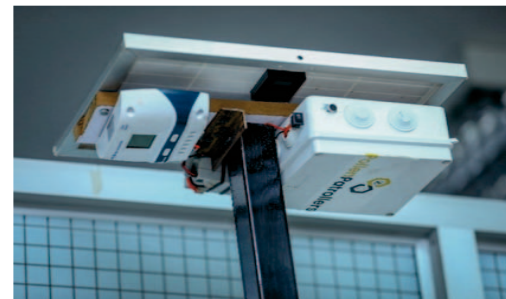
Costing \$2 per month, these smart hives make advanced monitoring accessible to rural beekeepers who are often the most vulnerable to climate-induced agricultural disruptions.



Beehives.

Complementing hive monitoring is an AI-powered pollination mapping system that uses satellite data and predictive models to identify optimal hive placements, generate pollination schedules, and determine precise hive-to-acre ratios—ensuring consistent, reliable pollination and boosting yields for small-scale farmers who typically lack access to managed pollinators. To bridge the knowledge gap and support technology adoption, Pollen Patrollers integrates robust capacity-building through AI hotlines and USSD chatbots available

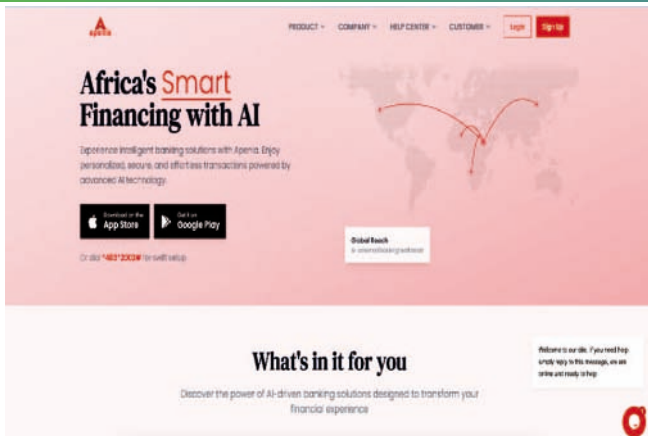
in local languages, delivering climate-smart agricultural training directly to underserved communities.



AI-powered pollination mapping system.

As Africa confronts escalating climate shocks and deepening food insecurity, this homegrown, tech-enabled solution is addressing the root causes of colony collapse—poor hive management, pests, climate stress, and data scarcity—while empowering farmers with tools for resilience. With demand rising across East Africa, the startup aims to scale its smart hives and precision pollination services to thousands of farms, positioning Kenya as a continental leader in sustainable pollination technology and helping protect one of the planet's most vital species.

Smart Financing Tools and Artificial Intelligence Driven Credit Innovation for MSMEs



Digital Platform

Apenia is reshaping how micro, small, and medium enterprises (MSMEs) access finance and manage daily operations by delivering an integrated digital platform designed for simplicity, inclusivity, and sustainable growth. Founded by Jessey Kariuki, the platform equips entrepreneurs with smart tools—including digital invoicing, automated sales tracking, revenue monitoring, and future receipts management—allowing

them to oversee core business functions from a single, intuitive application. This streamlined approach reduces operational friction, giving business owners more control, clarity, and confidence in their financial health. To strengthen liquidity, Apenia provides flexible working capital loans powered by an AI-driven credit engine that evaluates behavior-based indicators such as spending patterns, lifestyle choices, and non-monetary signals. By expanding credit

assessment beyond traditional banking criteria, Apenia opens doors for previously underserved entrepreneurs who are often categorized as high-risk despite strong business potential. This inclusive lending model ensures that more MSMEs can access timely capital to restock inventory, manage cash-flow gaps, and seize growth opportunities.

Across sectors, Apenia is driving tangible impact such as shop owners secure funds exactly when needed; traders digitize

sales, inventory, and customer records; and businesses improve operational discipline through real-time insights. Users report stronger cash flow, improved revenue visibility, and greater resilience in navigating everyday challenges.

Apenia stands out by combining inclusive financing with actionable intelligence and operational tools in one easy-to-use platform. Its AI-powered recommendations empower users to understand performance trends, optimize decision-making, and strengthen long-term stability. By unifying financing, analytics, and business management, Apenia offers more than a lending solution—it becomes a strategic partner for growth. Ultimately, Apenia is redefining the future of MSMEs financing by providing digital tools, accessible capital, and data-driven intelligence that empower entrepreneurs to build stronger, more sustainable businesses. Its vision is to create a trusted ecosystem where every entrepreneur can access opportunities, strengthen operations, and thrive in a dynamic market.

Eden Recyclers Pioneers Circular Economy by Transforming Waste Paper into Eco-Friendly Shoe Polish and Pencil Leads



A heap of waste materials

Eden Recyclers addresses Kenya's escalating waste crisis by converting discarded paper into eco-friendly shoe polish and pencil leads through a solar-powered carbonization process. This "Waste Paper Upcycling model" transforms post-consumer paper into Eko Black, a high-quality, non-toxic carbon biochar pigment that replaces conventional carbon black derived from fossil fuels. By offering a renewable, low-emission alternative, the initiative reduces reliance on petroleum-based pigments, prevents open dumping and burning of paper waste, and contributes to carbon

sequestration by locking carbon in a stable solid form.

Founded by Abraham Karani, the startup integrates innovative waste-to-value technology with community-driven sustainability. Its controlled, solar-powered pyrolysis system provides a clean, energy-efficient method for producing bio-pigments while diverting tons of paper from Nairobi's overcrowded landfills. The resulting products—affordable shoe polish and pencil leads—demonstrate a practical pathway for closing material loops and building a circular economy.



Black Shoe Polish.

A defining feature of the model is its "waste-for-product" exchange program, which encourages schools and

community groups to supply waste paper in return for eco-friendly writing materials and shoe polish.

Eden Recyclers supports Kenya's climate and development goals by creating green jobs for technicians, production staff, marketers, and waste coordinators. It also strengthens markets for recycled-content products, positioning the initiative as an attractive opportunity for impact-focused investors. Overall, the model exemplifies how local innovation can tackle waste management challenges, stimulate community participation, and deliver measurable environmental benefits.

By integrating education, clean energy, and resource recovery, Eden Recyclers demonstrates a scalable blueprint for emerging economies facing similar waste burdens. The model's emphasis on local manufacturing reduces transportation emissions, while its reliance on solar energy minimizes operational costs. Continued expansion could strengthen circular value chains nationwide and showcase Kenya's leadership in grassroots climate innovation and resilience.

Medtech Accelerator East Africa: Building New Generation of Health



Technology Innovators posing for a photo

Kenyatta University launched Medtech Accelerator East Africa in August 2023 to create an ecosystem where local innovators design medical technologies addressing East Africa's healthcare challenges. Led by Dr. Fidelis Kilonzo, Senior Lecturer in the School of Engineering and Architecture, alongside Co-Principal Investigator Dr. June Madete, Chair of the Department of Electrical and Electronics Engineering, and Prof. Bonventure Agina, Executive Dean School

of Health Sciences, the project establishes a makerspace and prototyping design studio for students, engineers, and community innovators.

The East Africa Biodesign Fellowship delivered in partnership with Stanford Mussallem Center for Biodesign and the University of Global Health Equity in Rwanda, the East Africa Biodesign (EAB) Fellowship Programme enrolled its inaugural cohort of four fellows for a rigorous 10-month curriculum covering three phases: Identify, Invent, and Implement.

Fellows completed clinical immersions at Kiambu Hospital, Thika Level 5 Hospital, and Voi Hospital, observing healthcare delivery and identifying unmet clinical needs. Specialized Invent and Implement workshops taught them to develop and refine solutions. Fellows are currently completing externships with various companies, gaining industry experience before graduating.

Faculty Development

In February 2025, Dr. George Otieno from Kenyatta University commenced the Global Faculty Innovation and Technology (GFIT) Program at Stanford University. He completed the programme in March 2025 and joined the East African Biodesign Fellowship teaching team.

Infrastructure

The fully equipped makerspace features

3D printers, medical device prototyping tools, and advanced design equipment. The facility is operational and supports the fellowship programme and independent innovators.

Funded by the Gates Foundation and built on Stanford biodesign methodology, Medtech Accelerator East Africa trains innovators while building a sustainable ecosystem for health technology innovation in East Africa.



Technology innovators present to the Vice Chancellor & Other University stakeholders.



Technology innovators.

Invention Education at Kenyatta University: Innovate, Convene, Create



Kenyatta University is establishing Kenya's first Master of Science in Biomedical Engineering (Medical Device Innovation) programme through the Invention Education (IvE) project. Led by Dr. June Madete, Chair of Electrical and Electronics Engineering Department, and Dr. Kenneth Iloka, Senior Lecturer in the School of Engineering and Architecture, the initiative addresses Africa's shortage of engineers trained in medical device innovation.

The Centre for Design, Innovation, and Engineering (CDIE) serves as the physical hub, providing prototyping equipment and collaborative workspace modeled after Rice University's Oshman Engineering Design Kitchen. The MSc. Biomedical Engineering (Medical Device Innovation) curriculum adapts Rice University's Global Medical Innovation programme to East African healthcare challenges. Summer Programme Success

The Medical Device Innovation Summer Programme ran from June 3-21, 2025, with sixteen participants from Kenya and Uganda—clinicians and engineers selected for creativity, technical skill, and passion for healthcare innovation.

Week one covered fundamentals: Kenya's healthcare system, brainstorming techniques, safety protocols, and hands-on training in 3D printing, woodwork, metalwork, and embedded systems. Week two included clinical immersions at Thika Level 5 Hospital, Kiambu Level 5 Hospital, and Kenyatta University Teaching, Referral and Research Hospital, plus industry visits to Villgro Africa, MOKO, and informal manufacturing sectors. Week three focused on prototype development.

Three winning innovations emerged: Electronic Partograph by Alex Gathua and Alphonse Oyugi (1st), Early Breast Cancer Screening device by Angela Chacha and Amos Olal (2nd), and Postpartum

Hemorrhage Detection system by Ebby Lari and Dennis Munene (3rd).

Master's Program Launch

Four information sessions between August and October 2025 reached approximately 25 prospective students each. Applications opened September 1 and closed November 1, 2025. The inaugural cohort of 15 students begins in January 2026.

Funded by the Lemelson Foundation, the project builds partnerships with regulatory bodies and industry for internships, research, and mentorship—creating pathways from prototype to market.



Participants after the training.



Research Ethics

THE DEVELOPING

ETHICAL TERRAIN

In every discipline where new knowledge is generated, ethical conduct is not just a procedural requirement but it is also the foundation of credible and responsible research. Emerging issues such as digital data collection, artificial intelligence, cross-border collaborations, and participatory research with communities bring new ethical dimensions. Ethical awareness enhances the quality, credibility, and social value of research. What once seemed straightforward as protecting participants' privacy or obtaining consent, now requires rethinking in light of digital connectivity, global collaboration, and rapid innovation. Some considerations include:



Digital and Data-Driven Research

The digital revolution has transformed research across disciplines. Tools such as online surveys, mobile data collection, and big data analytics have made it easier to gather vast amounts of information, on the flip side however, they blur traditional boundaries of privacy and consent. This puts the onus on the researchers to obtain meaningful consent when data is passively collected online, establish their obligations when using publicly available data, such as social media content as well as to consider issues of data security in an era of cloud storage and cross-border sharing.



Artificial Intelligence and Automation

AI and machine learning tools are revolutionizing research from predicting trends in economics to analyzing medical images. These technologies can however also introduce bias, reduce transparency, and raise questions about accountability. Ethical AI research requires careful consideration of various factors such as algorithmic bias and fairness, data provenance and consent and responsibility when AI-generated insights impact people's lives or policy choices. Researchers must therefore go beyond compliance to actively audit and challenge bias within their models and datasets.



Cross-Border Collaboration and Cultural Sensitivity

Global research collaborations have expanded opportunities for innovation, but they also expose ethical tensions between diverse cultural norms, legal systems, and institutional standards. For instance, research practices acceptable in one country may be inappropriate in another. Moreover, power imbalances between institutions in the Global North and South can lead to inequities in authorship, funding, and access to results. Ethical research collaboration calls for mutual respect and equitable partnerships, clear agreements on data ownership and benefit-sharing and recognition of local expertise and priorities.



Community Engagement and Social Justice

Contemporary ethics is no longer limited to avoiding harm, but increasingly emphasizes beneficence and social impact. Research involving communities, especially in development or public policy contexts, should ensure that findings contribute to local well-being and empowerment. This requires early and continuous community consultation, effective feedback mechanisms after data collection as well as transparent sharing of outcomes with participants and stakeholders. Ethics, therefore, extends beyond the research process as it shapes how knowledge benefits society.



Integrity Under Pressure

Today's academic and professional environments often prioritize rapid publication, competition for funding, and high-impact results. This "publish or perish" culture can tempt researchers to cut corners, reuse data without consent or misrepresent findings. Institutions must strengthen research integrity systems through training on responsible research conduct, mentorship and peer accountability and clear consequences for misconduct. Sustaining an ethical culture means rewarding transparency and collaboration as much as innovation. The ethical landscape is evolving faster than regulations can keep up. As research becomes increasingly digital, global, and interdisciplinary, ethical reasoning must also evolve, from rigid compliance to reflective, context-sensitive practice. These highlights the growing need for data ethics frameworks that balance innovation with accountability. Ultimately, ethics is not just about preventing harm, it is about shaping research that is inclusive, transparent, and beneficial to all.



New Grants

Understanding how research evidence is used in disability inclusive policymaking in Kenya



Stakeholders at the INVEST project inception Meeting held on Wednesday 16th July 2025 at the Kenyatta University Conference Centre, Interaction Hall

Kenya is making significant progress in promoting the rights and inclusion of persons with disabilities, as evidenced by the growing portfolio of relevant policies and laws as well as attempts to mainstream disability across other policies. However, there is a critical need to understand how research evidence and the lived experiences of persons with disabilities inform policymaking processes. This is because persons with disabilities in Kenya continue to face systemic barriers, including discrimination, limited access to services, and inadequate representation

in decision-making. Furthermore, Organizations of Persons with Disabilities frequently lack the resources, research skills, and evidence-based strategies to advocate effectively which hinders inclusive development. Consequently, the growing body of research on disability inclusion in Kenya is still far from providing policymakers with a comprehensive evidence-base to inform policymaking and is frequently supplemented with anecdotal descriptions and accounts of the lived experiences of persons with disabilities.

To address these knowledge gaps, Sightsavers and Kenyatta University's Directorate of Disability Services are conducting a study titled "Inclusion in the evidence ecosystem (INVEST): understanding how research evidence is used in disability inclusive policymaking in Kenya". With funding of approximately **Ksh. 18 M** from The British Academy, this project seeks to explore how research evidence has been used to influence the development of the Persons with Disabilities Act (2025). The lead researchers are: Dr. Stevens Bechange as PI (Sightsavers), with Dr. Wilson Muna (Department of Public Policy and

Administration, Kenyatta University), Dr. Margaret Murugami (Department of Early Childhood and Special Needs Education, Kenyatta University), and Dr. Elena Schmidt (Sightsavers) as Co-Principal Investigators. This study has potential to significantly advance the global understanding of the use of research evidence, including lived experiences of persons with disabilities in making laws and policies more disability inclusive. The findings will benefit the development of policies in sub-Saharan Africa and beyond.

With funding of approximately **Ksh. 18 M** from The British Academy, this project seeks to explore how research evidence has been used to influence the development of the Persons with Disabilities Act (2025).

Nairobi Circular Design Hub: “Closing the Loop” on Industrial Textile Leftover/Waste

Kenyatta University is honoured to partner with the Estonian Academy of Arts and SEI Tallinn in addressing the challenge of textile waste.



Industrial Textile Leftover/Waste.

Euro 18, 560

The fashion, textile, and apparel industries are important catalysts for economic

growth in many countries. Over the years, these industries have used the linear models of “take-make-waste,” which is estimated to contribute to 92 million tonnes of textile waste each year (Global Fashion Agenda, 2017). In Kenya, fabric waste during manufacturing and garment production is estimated at 400,000 tonnes of fabric waste annually. This waste is often disposed off in landfills or incinerated, contributing to greenhouse gas emissions and potential soil and water pollution. Although the informal collection of textile waste, such as off-cuts (sometimes referred to as “maziwa” fabrics), provides some level of reuse, it lacks the scale to manage the large quantities of textile waste. A transition to a circular economy offers a viable solution because this model replaces the end-of-life concept by recycling, upcycling, and the reuse of such waste through circular principles.

Kenyatta University is honoured to partner with the Estonian Academy of Arts and SEI Tallinn in addressing the challenge of textile waste. The objective of the project is to promote circular economy practices in Kenya’s textile sector by establishing a Circular Design Hub, enabling the reuse of textile waste, fostering sustainable innovation, and supporting designer

training and knowledge exchange.

The project will actively engage Fashion Design and Marketing (FDM) faculty and students in its implementation through research, knowledge exchange, and innovation activities. This project is funded by the Estonian Centre for International Development (ESTDEV) in Estonia. The Kenyatta University team comprises Dr. Jacqueline Kisato (lead Partner), Ms. Martha Wainana, Prof Geoffrey Gitau, and Paul Waweru (Eco-Mobulus). Dr. Dorothy Munyua is a co-opted member from the FDM. The Estonia team is led by faculty from Estonian Academy of Arts and SEI Tallinn research team. The lead partner, Ms. Anna Lohmatova, Project Manager, Sustainable Design and Materials Lab, will contribute to the mapping of industrial textile waste in Nairobi in collaboration with SEI Tallinn.

By mitigating textile waste as a challenge and “closing the loop”, this project envisions equipping faculty and students with skills to create upcycled, recycled, and innovative textile-related products. We also hope to identify business pathways for recycled textile waste that provide a more sustainable and economically viable alternative.



Dr Eric M. Kioko

DKK 10,400,000

Dr Eric M. Kioko, from the Department of Environmental Studies and Community Development at Kenyatta University, is leading a five-year collaborative project running from 2025 – 2030. The project has been granted a funding of DKK 10,400,000 by the Danish Fellowship Centre (DFC) in Denmark. The project brings together partners from the Danish Institute for International Studies (DIIS) and Kenyatta University. The partnership aims to explore causes of green conflicts projects in northern Kenya, specifically relating to energy (wind, solar, etc.) and conservation (carbon trading), as the empirical basis. The project team members are: Dr Peter Albrecht (project

Green Conflicts in Kenya's Northern Drylands (FRONTLANDS)

lead at DIIS), Dr Eric Kioko (project lead at KU), Dr Jane Mutune (UoN project partner), Dr Marie Gravesen (postdoctoral fellow), Dr Millicent Omala (postdoctoral fellow), Dr Mads Yding (postdoctoral fellow), Caleb Braham (PhD candidate) and Cecilia Njagi (PhD candidate).



The FRONTLANDS team on a project reconnaissance mission in northern Kenya in September 2025.

The “Green Conflicts in Kenya’s Northern Drylands (FRONTLANDS)” project examines the increasing influence of the Kenyan state, non-governmental organisations (NGOs) and private actors in Northern Kenya’s pastoral drylands through green energy and conservation initiatives. The project examines how efforts driven by global environmental and

climate agendas are transforming these regions into frontiers of state-building and branding, thereby raising the potential for conflict over natural resources. Using an interdisciplinary approach and the concept of ‘green conflict assemblages’, the project seeks to understand the dynamic interactions between various stakeholders and natural resources. FRONTLANDS seeks to influence local and international policy by highlighting potential conflicts, ensuring that such interventions support sustainable development and respect local rights and livelihoods.



The FRONTLANDS project team in Bubisa, Marsabit County.

They are observing a wind monitoring mast that has been set up in order to assess the area’s potential for wind energy development.



Dr. Mary Baaru: Project Leader,
Environmental Studies & Community Development

Euro 1,450,000

Africa stands at a critical juncture in its pursuit of sustainable technologies, with its rich natural resources and youthful population offering immense potential to address global challenges such as climate change, energy access, and economic growth. However, progress is hindered by a lack of skilled professionals, and insufficient collaboration between academia and industry. These gaps demand urgent action to build the human and institutional capacities necessary for sustainable development and economic transformation. The GreenTech Mobility project is funded by European Union (EU) to run from 2026 to 2029 through five African universities namely: University Nangui Abrogoua



**Technology
Arts Sciences
TH Köln**



Project Name: GreenTech Mobility:

Advancing sustainable technologies through academic collaboration in Africa

in Ivory Coast as the lead, Kenyatta University, Catholic University of Rwanda, National University of Science, Technology, Engineering, and Mathematics in Benin, and University of Energy and Natural Resources in Ghana. The project will equip 26 Master's students, 9 Ph.D. candidates, 12 trainees, and 9 academic staff across the Universities with technical and professional skills for emerging green industries, modernizing curricula to align with Africa's development priorities, and strengthening African higher education

institutions to deliver quality education and foster global collaboration. The consortium also includes University Cadi Ayyad (Morocco) as associate partner and new entrant to Intra-Africa mobility scheme; and Cologne University of Applied Science (TH Köln) as the European Union technical partner. The project will be implemented through the Department of Environmental Studies and Community Development in partnership with the Department of Energy, Gas and Petroleum by the following team members.

Project team members



Dr. Joseph Kuranka
Environmental Studies &
Community Development



Dr. Felix Ming'ate
Environmental Studies &
Community Development



Dr. Jane Mutinda
Environmental Studies &
Community Development



Dr. Peter Wangai
Environmental
Studies & Community
Development



Dr. Francis Njoka
Department of Energy, Gas &
Petroleum

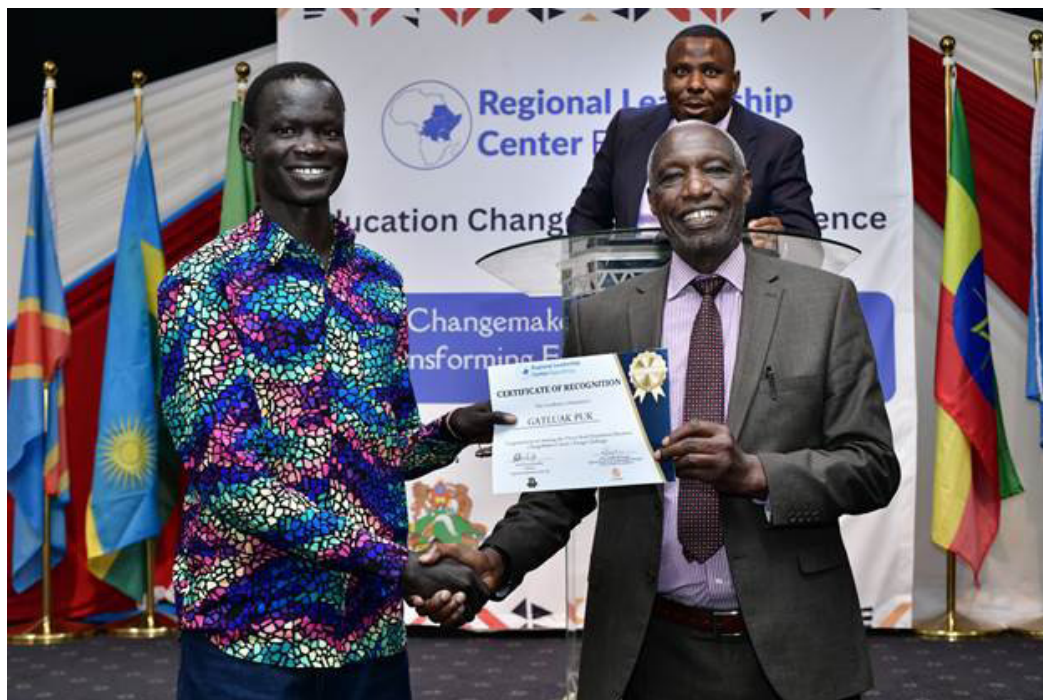


Regional Leadership Center East Africa

Kenyatta University's Regional Leadership Center East Africa (RLC EA) in Nairobi is a legacy of the Young African Leaders Initiative Regional Leadership Center East Africa (YALI RLC EA), which, for the past 10 years, was supported by the American people through USAID and other private partners.

Due to the withdrawal of the USAID, the university notes that the sustainability of the YALI programme relies on maintaining and supporting continuous training, as well as on the implementation of alumni initiatives, by alumni organizations and chapters. It speaks to the capacity to hold the desirable conditions as pertain to the YALI financial and programmatic targets and outputs over the long term. Kenyatta University has made significant progress toward the sustainability of the YALI RLC EA, including developing its first Strategic Plan and implementing the Sustainability Transition Plan (STP).

So far, the Regional Leadership Center East Africa has successfully trained 64 cohorts, including the recently launched Education Changemakers cohort 2 (in the Sustainability Transition Period), supported by the Trevor Noah Foundation. The alumni population has now grown to 6,185 young leaders actively transforming their communities across East and Central Africa. These leaders have made a significant impact across all sectors of the society. The mission of the Regional Leadership Center East Africa is to cultivate a generation of diverse, professional, and innovative young African leaders who are ethical and skilled in managing private businesses, civic organizations, and public resources.



Prof. Paul K. Wainaina, Vice Chancellor of Kenyatta University, presents a Certificate of Recognition to Gatluak Puk, from South Sudan, the winner of the Design Challenge under the 2nd cohort of the Education Changemakers supported by the Trevor Noah Foundation.



Olona Tywabi, the Communications Manager at the Trevor Noah Foundation, confers a Certificate of Participation to Oliver Akello from Uganda, a training participant under the Education Changers cohort 2.

The RLC EA serves as a regional hub for programs focused on young leaders in East and Central Africa, organizing leadership programmes, projects, and activities. The Center serves youth aged 18-35 from fourteen countries: Burundi, Central African Republic, Republic of the Congo, Democratic Republic of Congo, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania, and Uganda.

The second cohort of the Education Changers Programme was launched on Monday, 22nd September 2025. This program, a transformative initiative spearheaded by the Trevor Noah Foundation in partnership with the Regional Leadership Center East Africa at Kenyatta University, is set to make a significant impact on our communities.

This programme is designed for educators, school leaders, innovators, and policy advocates who recognize the challenges in schools and communities and are committed to envisioning solutions.

The programme not only encourages but values applications from rural and economically disadvantaged leaders, those with disabilities, and other minority groups. Their voices are vital, and this programme is designed to amplify and make them feel valued and respected. Kenyatta University extends its sincere thanks to the Trevor Noah Foundation for its generous investment of US\$242,313 in the second cohort, the first under the

Sustainability Transition Period. Their belief that education is the foundation of resilience, and their work in equipping underserved youth with skills, supporting teachers, and improving infrastructure to ensure every young person has a pathway to success beyond matriculation, aligns with our ideals at Kenyatta University. Cohort 2 of the Education Changers Programme is a cornerstone of that vision—a commitment to fostering solutions that are not just effective but enduring.



Mzwandile Msimanga (Extreme left), Special Projects and Partnerships Manager at the Trevor Noah Foundation, at the Lukenya Retreat site with all the 63 training participants of the second cohort of the Education Changers.

Leadership for Education for Sustainable Development (LEAD-ESD) Capacity Building Programme Launch



National Policy Dialogue and Workshop for Rwanda, Kigali, 2nd October 2025.

Kenyatta University in partnership with UNESCO and UNICEF launched the Leadership for Education for Sustainable Development (LEAD-ESD) Capacity Building Programme for policy makers, teacher educators and TVET instructors on 16th June, 2025. The programme seeks to build capacity on integration

of sustainability into the curricula and operations of educational institutions. The programme will cover four countries; Kenya, Rwanda, Uganda and Seychelles. Dr. Mukirae Njihia of the Department of Educational Planning, Policy and Management (Principal Investigator) and

Dr. Damaris Kariuki of the Department of Educational Management Policy and Curriculum Studies (Co-Principal Investigator) are the coordinators of the LEAD-ESD programme at Kenyatta University. The respective country coordinators are: Ms. Lynndina Essack (Seychelles); Dr. George Muganga (Uganda); Prof. Irenne Ndayambaje (Rwanda) and Dr. Everlyn Wemali (Kenya).

The Cabinet Secretary for Education, Hon. Julius Migos Ogamba officially launched the programme during the Regional Inception workshop held at Kenyatta University. The launch was attended by members of Kenyatta University management, policy makers, ESD experts and LEAD-ESD country coordinators from the four participating countries. The objectives of the regional inception workshop were to; officially launch the programme; sensitize the country coordinators on the LEAD-ESD website and the training modules in the Learning Management System; and plan the implementation of the programme in the respective countries.



LEAD-ESD Regional Inception workshop, Kenyatta University, 16th June 2025. Mr. Darius Mogaka, Ministry of Education, Prof Paul Wainaina, Vice Chancellor, Kenyatta University, Prof Waceke Wanjohi, DVC Academic, Mr. Lamine Mamadou, UNESCO ROEA.



From Left: Dr Mukirae Njibia, Prof Marifa Mwakumanya, Dr Patience Awopegba, Ms. Annika Rigole, and Dr. Charles Chikunda.

The launch was followed by virtual national inception workshops held in the months of July and August 2025 in each of the four countries which brought on board national policy makers and participants. National Policy Dialogue workshops were also held in each participating country between 11th September and 2nd October. The National Policy Dialogue Workshops brought together policy makers and ESD experts to interrogate the ESD policy environment as well as ESD practices in each country. The LEAD-ESD programme has enrolled 247 participants from all the four nations.



LEAD-ESD National Policy Dialogue and Workshop in Uganda, Kyambogo University, Kampala, Uganda, 19th September 2025 and 11th September 2025, Mabe, Seychelles.



Prof. Teresa Mwoma

Writing for Publication in High-Impact Journals: Academic Writing Workshop for Early Childhood Development (ECD) Researchers in Sub-Saharan Africa

In response to barriers faced by researchers in the region, Kenyatta University (KU) has partnered with Education Sub-Saharan Africa (ESSA), the University of Cambridge, and the Compare Journal to host an in-person writing workshop. The initiative, supported by the Conrad N. Hilton Foundation and the British Academy, aims to equip African researchers with essential skills in academic writing, publishing, and grant proposal development. This effort seeks to overcome challenges such as limited training and inadequate mentorship, ultimately strengthening the impact of Early Childhood Development (ECD) research from the region.

The writing workshop is scheduled for February 2nd – 6th, 2026, in Nairobi, Kenya. The workshop aims to strengthen the capacity of early-career researchers in Early Childhood Development (ECD) across Sub-Saharan Africa through publishing in high impact international journals and to access research funding.

Professor Teresa Mwoma from the Department of Early Childhood and Special Needs Education, is the coordinator of the programme at Kenyatta University.

It is expected that the writing workshop will enhance participants' knowledge and skills in structuring and writing journal articles, understanding the peer review process, revising manuscripts based on reviewers' feedback, and identifying appropriate journals for submission. In addition, the workshop will provide hands on training in developing strong research grant proposals helping participants understand funder priorities, structure persuasive proposals, and prepare coherent budgets aligned with project goals. Through co-learning sessions, the workshop will foster meaningful engagement between researchers and journal editors to demystify the publication process and identify strategies for increasing visibility and impact of African research. Furthermore, participants will collaborate to co-author a Compare Journal Forum piece on improving access, equity, and inclusion in academic publishing, while fostering South–South research partnerships and peer networks. A total of 35 early-career researchers will be

selected from Central, Eastern, Southern, and West Africa. Eligible participants must be citizens and residents of these regions, hold a PhD obtained within the last ten years, and be affiliated with a university or research institution. Mentorship will be a central pillar of the initiative, with senior academics and journal editors providing support before, during, and after the workshop. Mentors will review manuscripts, provide individualized feedback, facilitates small-group mentoring sessions, and guide participants through manuscript revision and submission. Post-workshop mentorship will continue virtually, ensuring sustained guidance until publication.

Ultimately, this mentorship programme aims to elevate the quality and global visibility of African ECD research. By fostering inclusion and promoting academic excellence, we are strengthening efforts in building a strong, sustainable network of scholars committed to driving advancements in early childhood development through rigorous, evidence-based research published in top-tier journals.



**Stakeholders meeting in Nairobi,
August 2025**

USD 534,964

Kenyatta University is hosting a Research Chair on Life Skills and Values Education under the HERI (Harnessing Education Research and Impact) -Africa initiative. HERI-Africa envisions:

Transformed African Education research ecosystem for relevance, impact and sustainability. This will be achieved through transforming and revitalizing the education research ecosystem into a vibrant, productive, Africa-led space.

Fostering collaboration among research institutions and researchers to decolonize knowledge production and research impact and sustain knowledge generation and exchange; developing and implementing an education research agenda that addresses the priority needs of our communities and societies.

Establishing Research Chair on Life Skills and Values at Kenyatta University

Documenting our African indigenous knowledge and translating it into homegrown perspectives and theories that align with our own realities.

Translating and sharing research results to inform policies, planning, practices and theory development to drive sustainable and equitable development.

The unique contribution of the HERI-Africa programme includes the capacity development of university-based early-career and female researchers for gender equality, grounding education research in local realities and the needs of our society, democratizing funding through the mobilization of African governments and philanthropy to fund research, as well as decolonizing research dissemination and access.

HERI-A is guided by six key principles: Africa-led (Africa-based researchers setting the agenda and leading the way).

Co-creative (distributing opportunity and carrying everyone along).

Localized (building on existing foundations and aligning with current realities).

Long-term (committing to walk far, and building capacities across generations to drive the future).

Gender (taking into consideration all gender segments including females and persons living with disabilities).

Responsive (agile to respond to situations and our socio-political contexts). The initiative is driven by the values of Trust, Equity, Justice, Inclusivity, and Excellence. HERI-Africa, co-led by Zizi Afrique Foundation and the Commission for University Education, is establishing research chairs to lead research and capacity development activities at the university level. Kenyatta University, University of Embu, and Kisii University will host three inaugural chairs – Life Skills and Values Education, Mathematics Education, and Language Education, respectively.

The Research Chair on Life Skills and Values Education will aim to develop and test practical approaches for developing (nurturing) life skills and values, and to generate evidence on what works, where, and why with respect to life skills education to achieve significant improvements in learning outcomes for all learners in Kenya. The Chair will develop and implement a comprehensive model for integrating life skills and values to support the implementation of CBE across all levels of education. Such a model would establish a foundation for sustainable and impactful life skills development, fulfilling both local and global educational objectives.



On-going Research

The Nairobi aerosol Chemistry and Environmental Monitoring Campaign



TOF-ACSM set-up at the air quality lab at Kenyatta University City Campus.

Kenyatta University air quality project is a result of memorandum of Understanding between Kenyatta University and Columbia University, New York signed on 13th January, 2021. Through this MOU Dr. Godwin Opinde (Kenyatta University), Prof. Daniel Westervelt (Columbia University) have partnered with Scholars and industrial partners to set up an Air Quality Laboratory at Kenyatta University City Campus. The lab was the launch pad for the Nairobi aerosol Chemistry and Environmental Monitoring Campaign (NBO-CHEM) that is being supported by Prof. Albert Presto and Theobard Habineza (Carnegie Mellon University, Pittsburgh, PA, USA), Prof. Peter F. DeCarlo and Prof. Benjamin A. Nault (Johns Hopkins University, Baltimore, MD, USA),

Prof. Leah Williams (Aerodyne Research Inc), Abhishek Anand (Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY) and Mr. Teddy Mutisya (Kenyatta University). This is an intensive campaign that will represent one of the most comprehensive atmospheric chemical measurements in East Africa through the following state of art instruments:

- Aerodyne Time of Flight Aerosol Chemical Speciation Monitor
- Magee Scientific AE33 Black Carbon Aethalometer
- American Ecotech Serinus 40

- Nitrogen Oxides analyzer
- Thermo Fischer UV Absorption O₃ analyzer
- Thermo Fischer CO monitor
- TSI Scanning Mobility Particle Sizer
- MODULAIR and MODULAIR-PM gas and particle sensors

Measurements obtained from the equipment are crucial for understanding air pollution, climate effects, and health impacts. They will also help identify pollution sources, assess atmospheric processes, and guide mitigation strategies.

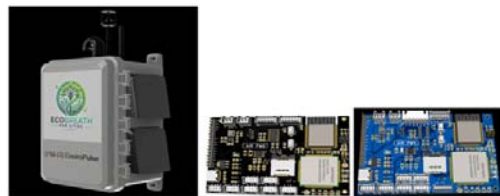
The lab has enhanced Kenyatta University's collaboration with other partners of interest including National Environment Management Authority, Nairobi City Government, and Academia from local and international universities. The lab has also provided opportunity for innovative space which complements Tika Lab. Mr. Teddy Mutisya (technical personnel) in both Tika Lab and Air Quality Lab has utilized this opportunity to design a low-cost air quality sensor for monitoring particulates and gases. This Project positions Kenyatta University in air quality monitoring and management space in Africa.



Prof. Daniel Westervelt (Columbia University) and Mr. Mutisya (Kenyatta University), Setting up air quality instruments in the Lab.



(From Left to Right) Prof. Jan Petterson (Technical University of Sweden), Ms. Sasha N. Nyanange (Makerere University), Prof. Johan Mellqvist (University of Gothenburg) and Prof. Magdalena Erickson (technical University of Sweden) visit the Air Quality Lab at City Campus.



Poly Casing & PCB board designed at Kenyatta University for a low-cost sensor measuring Particulate matter and gases.



Dr Godwin Opinde & Prof Albert Presto during performance assessment of TOF-ACSM.



Dr. Dave Fabey, Director the National Oceanic and Atmospheric Administration (NOAA) USA and Co-Chair of Montreal Protocol as a Co-Chair of its Scientific Assessment Panel (second from right) after paying a Courtesy Call and making a presentation on possible areas of collaboration with Kenyatta University. Present DVC RIO, Dean Engineering & Architecture, Dean Agriculture & Environmental Sciences, Representatives from Chemistry & Physics Department & Dr. Godwin Opinde.

Reduce-to-End Violence on Campus



£24,930

Kenyatta University's Centre for Gender Equity and Empowerment working in partnership with the University of Warwick, UK once again won a research grant for a project entitled, **“Prevention of violence against women and girls with a particular focus on higher and further education institutions as safe spaces for women”**. The project begun in January 2025 and ends in February 2026. The amount of the grant awarded is £24,930 with Kenyatta University as Sub-Grantee. This project's objective is to progressively accelerate, reinforce and maintain safe spaces and eliminate all forms of Sexual and Gender Based Violence (SGBV) through the implementation of digital SGBV reporting platforms at Kenyatta

University and upscaling the same to neighbouring universities and Technical and Vocational Education and Training (TVETs).

In order to achieve the objectives of the project, the Centre has undertaken the following activities:

- On 10th July 2025 the Centre in partnership with Prof. Georgia Kremmyda of University of Warwick, held a webinar on creating safe spaces for women and girls in higher education and the workplace. The aim of the webinar was to raise awareness about the importance of creating safe spaces for women and girls in higher education and workplaces, share knowledge and best practices from on-going projects and academic institutions, amplify the voices and lived experiences of young women to inform policy and practice, identify
- On 31st July, 2025, the Centre in conjunction with Campus MeToo held a webinar on **legal and institutional accountability in higher education spaces: how legal tools can be used for protection, redress and institutional accountability regarding Gender Based Violence**. The webinar focused on legal frameworks and mechanisms, mechanisms for accountability, benefits of accountability and institutional accountability: role of academic institutions in promoting safe spaces.

- On 19th September 2025, the Centre held a seminar to create awareness and sensitize the first (1st) year students on Gender policy, the Sexual and Gender-Based Violence (SGBV) policy and the Kenyatta University Sexual Gender Based Violence (SGBV) Reporting platforms (**Mobile Application and Web page**). The seminar's objective was to provide information to the new students on how to keep themselves safe in a new environment and how to respond and report in case they encounter an incident.
- On 27th-30th October, 2025, Prof. Judith Waudo, the Director Centre for Gender Equity and Empowerment, attended the Going Global 2025 Conference in London, UK, sponsored by the British Council. The conference theme was **Resilience, Values, Innovation: Surviving and Thriving in a Volatile World**. The director contributed to a conversation on **“How tertiary education can work collaboratively to drive change around gender inequality: Learning from Practice”**, with a particular focus on creating safer campuses by sharing insights into the work that the Centre has done to prevent and respond to on-campus sexual and gender-based violence in Kenya through the Gender Equality Partnership with the University of Warwick.



Prof. Judith Waudo with colleagues at the conference.



KU SGBV APP – QR CODE

Through these advocacy initiatives, Kenyatta University, through the Centre continues to promote gender equity and campaign against GBV through advocacy, awareness creation and strengthen reporting and response to GBV to create safe spaces in institutions of higher learning.

Kenyatta University and Tsinghua University Partner to Advance Trauma-Informed Psychological Care among Adolescents and Youths Living with HIV in Kiambu County, Kenya



Project team members

Kenyatta University, through the School of Health Sciences, is implementing the BRIGHT Grant Project, funded by Tsinghua University, Beijing, China, under the 2024/2025 BRIGHT Global Research Initiative. The project, titled **“Introducing a Brief Transdiagnostic Psychological Intervention for Trauma Counselling among Adolescents and Youth Living with HIV in Kiambu County, Kenya – A**

Pilot Study”, seeks to strengthen trauma-informed care and psychosocial support for young people living with HIV.

The project is led by Dr. Francisca Ongecha as the Principal Investigator, with support from Dr. Titus Kahiga and Dr. Vincent Maganga, all from Kenyatta University. The grant application was uniquely drafted by two undergraduate students (Emily Nyakinyi Kiruku (Bachelor

of Medicine and Surgery) and Alphonse Oyugi (Bachelor of Science in Nursing and Public Health) demonstrating the university's commitment to mentorship and nurturing student-led innovation and research excellence under the mentorship of the PIs.

A multidisciplinary team comprising a medical doctor, pharmacist, nurse, and psychologist is implementing the project, showcasing the importance of collaborative approaches in addressing complex health challenges. The study integrates mental health and trauma care into HIV services for adolescents and youth aged 16–24 years through peer-led psychological support in 8 tier-3 facilities in Kiambu County, Kenya including Kiandutu, Lang'ata, Githunguri, Limuru, Kagaa, Juja Farm, Gakoe and Kiganjo.

Since its inception, the project has achieved several milestones, including ethical approval, capacity building for healthcare workers, and training of peer leads from selected HIV care facilities across Kiambu County. Data collection on trauma-focused service availability and provider preparedness has also been completed.

Looking ahead, the team envisions scaling up this innovative model to other counties across Kenya and the region to strengthen mental health integration within HIV care systems.

Kenyatta University Women's Economic Empowerment Hub Marks Successful Completion of Landmark Research Project



Stakeholders during the Closeout event: Prof. Thoruwa (seated, middle), represented the Kenyatta University Vice Chancellor, Prof. Paul K. Wainaina. She is flanked by (L-R): Prof. Nelson Wawire (KU-WEE Hub Research Coordinator), Dr. Joy Kiiru (The Gates Foundation), Prof. Waceke Wanjohi (DVC Academics) and Prof. Judith Waudu (KU-WEE Hub Leader).

Kenyatta University recently marked a major milestone in advancing gender equality and inclusive economic growth in Kenya with the successful closeout of the research project **“Initiatives for What Works to Improve Women's Economic Empowerment in Kenya.”** The five-year project, funded by the Gates Foundation and implemented by the Kenyatta University Women's Economic Empowerment (KU-WEE) Hub, generated groundbreaking evidence to inform policies and programmes that enhance women's participation and success in the economy.

The project comprised 14 studies organized under three thematic areas: Women's Roles in Public and Private Sectors, Women's Skilling

and Mentoring, and Violence, Crises, and Women's Work. Each thematic area explored critical dimensions of women's empowerment — from participation in decision-making and leadership, to access to decent work opportunities, entrepreneurial growth, and the challenges posed by gender-based violence and economic shocks.

Findings from the studies have already begun to shape policy and practice across key sectors of Kenya's

economy. Notably, the research has informed interventions in budgeting, manufacturing, tourism, and public service, where public and private sector institutions are integrating gender-responsive strategies into planning and implementation. These policy impacts underscore the practical value of evidence-based research in addressing systemic barriers to women's full economic participation.

During the project's closeout event, held at the Kenyatta University Conference Center, stakeholders from government ministries, academia, civil society, and the private sector commended the Hub for its exemplary leadership in managing the initiative. Speakers highlighted the importance of translating

research findings into actionable policy measures that drive real change in women's lives.

Speaking on behalf of Kenyatta University Vice-Chancellor, Prof. Paul Wainaina, the Deputy Vice-Chancellor (Research, Innovation and Outreach), Prof. Caroline Thoruwa, congratulated the KU-WEE Hub team for their outstanding contribution to research and policy on gender equality. She emphasized that the University remains committed to supporting evidence-based initiatives that empower women and promote sustainable development. Prof. Thoruwa further noted that the findings from the project will continue to inform the University's broader mission of generating knowledge that transforms lives and shapes public policy in Kenya and beyond. In her remarks, the KU-WEE Hub Leader, Prof. Judith Waudu, noted that the project's success demonstrates the transformative potential of research when it is anchored in partnerships and policy relevance. She emphasized that empowering women economically is not only a matter of equity but also a catalyst for national development and resilience.

Stakeholders called on policymakers to continue leveraging the findings to inform future programming and policy formulation. The KU-WEE Hub reaffirmed its commitment to advancing gender-responsive research and fostering a more inclusive economy where women can thrive as equal contributors and beneficiaries.

From Soil to Solution: Kenyatta University Champions Co- Development of Low-Cost Soil Sensors

For many smallholder farmers in Kenya, understanding what lies beneath their soil remains a challenge. Regular soil testing, essential for better yields and sustainable farming, is often expensive or inaccessible. To bridge this gap, Kenyatta University (KU) is playing an integral role in a collaborative project titled **“Towards Low-Cost Soil Fertility Sensor Systems for Smallholder Food Security in Kenya”**.

The initiative brings together Kenyatta University, the University of Strathclyde, and the Glasgow School of Art, with a funding of £171,609 from the Engineering and Physical Sciences Research Council (EPSRC) and initial support from NERC. The project's goal is to co-create biodegradable, affordable soil sensors that smallholder farmers can use to test soil nutrients such as nitrates and phosphates. These sensors are printed on recycled paper using conductive inks made from

£171,609

natural materials, including egg yolk, charcoal, and seed oils, demonstrating that sustainability and innovation can go hand in hand.

Leading the project's Kenyan team is Prof. Ezekiel Mugendi Njeru from the Department of Biochemistry, Microbiology, and Biotechnology. With extensive experience working alongside smallholder farmers, Prof. Njeru understands the urgent need to make soil testing accessible at the grassroots.



Prof. Ezekiel Mugendi Njeru, during a farmers' workshop

His involvement ensures that farmer perspectives guide the technology's development from start to finish. The project follows a true co-development model, involving smallholder farmers from Kitui, Embu, and Tharaka Nithi counties. Farmers actively contribute ideas, test prototypes, and provide feedback to ensure the sensors are practical and relevant to their everyday realities.

Implementation of Aclimatise Project



Prof. Nyerere, CESDA Secretary (left) awards Ms. Boyani (KU Aclimatize student) Certificate of course completion during the award ceremony.

The Centre for Education and Sustainable Development in Africa (CESDA) hosted by Kenyatta University partnered with institutions including 10 African Universities, the Climate-U network and Utrecht University to develop a collaborative online international learning (COIL) programme on climate change and sustainable development - ACLIMATISE. The collaborative initiative supported by Growers street delivered a 12-week online course and practical community exposure, undertaken in line with tenets of participatory action research for 150 undergraduates from University of Ghana, University of Dar-es-Salaam, Kwame Nkuruma University of Science and Technology, University of

Zambia, Emmanuel Alayande University of Education, University for Development Studies, Kenyatta University, Kisii University, Kenya Methodist University and University of Nairobi.



KU Aclimatise students with Dr. Godwin Opinde (centre) show case their certificates after award ceremony.

Kenyatta University under the coordination of Dr. Godwin Opinde received over 250 applications from students interested in join the course. The available opportunities were limited to 15 slots which were awarded competitively. The students who were enrolled in the acclimatize course had the opportunity for knowledge exchange with students from participating universities. They also benefited from guest lectures delivered by international specialists and practitioners in the climate change space. Kenyatta University lecturers, Dr. Joseph Kurauka and Dr. Purity Muthoni supported development of modules and delivery of content in this programme.



KU Aclimatize students: Esther (Holding a book) and Vitalist (1st on the left) pose for a photo with fisher folk from Kendubay after field visits.

The funded community exposure programme, costing USD 4,000 per university, placed Kenyatta University students in various spatial and environmental context including but not limited to Turkana, Meru, Homabay, Nairobi, Narok, Taita Taveta, Nakuru, Naivasha and Makueni. Students' projects focused on Climate change- Blue economy nexus, Climate Change-Pastoralism nexus, Climate Change-Crop production nexus, Climate Change-Waste management nexus, Climate Change-urban planning nexus and Climate change-transport nexus. The students had real life experience with the communities and reported their findings in collaborative groups – providing international peer exchange. All registered Kenyatta University students received their transcripts and certificate of completion.

Building Climate Knowledge Ecosystems: Tackling Eucalyptus Monoculture in Kisii and Nyamira Counties, Kenya



Participatory Action Research Group during the Launch meeting in Kisii, July 2025.

'Building Climate Knowledge Ecosystems for Policy-Making in Kenya and Tanzania', is a collaborative research project addressing the urgent environmental and livelihood issues caused by eucalyptus monoculture in Kisii and Nyamira counties. The project is funded by the British Academy and seeks to bring together communities, researchers, and policymakers to co-create sustainable solutions and evaluate existing policy gaps.

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The project is implemented by Kenyatta University, University College London (UCL) and the University of Dar es Salaam, in collaboration with Kisii University. It seeks to bridge the critical gap between scientific evidence and policy implementation. Although Kenya has robust policies on natural resource management and climate change, these often fail to translate into effective action. This is evident in Kisii and Nyamira counties, where the widespread growing of eucalyptus trees, though economically

attractive to farmers, has created a 'green desert': an extensive landscape with depleted water resources and declining agricultural yields.

Through this project, community members, researchers, and policymakers will collaborate as equal partners to define the problem, collect data, and design interventions in a participatory action research approach. The project's goal is to facilitate dialogue that integrates scientific evidence, community voices, and policy frameworks.

The project was officially launched in Kenya with a national stakeholders' meeting in Nairobi in 2025, followed by an engaging, community-focused workshop in Kisii in July 2025. The two workshops brought together diverse participants, including local community representatives, academia, national and county government officials, Kenya Forest Service representatives, and youth climate advocates.

Partnerships/ Collaborations



GIS Day celebration

Kenyatta University held its annual GIS Day celebration on 19th November, 2025 at the Main Campus, bringing together students, faculty, industry partners, and GIS professionals to highlight the vital role of Geographic Information Systems (GIS) in research, innovation, and sustainable development. The event began with remarks from Prof. Simon Onywere, Patron of the GIS Club, followed by Dr. Laji Adoyo, Chair of the Department of Spatial and Environmental Planning, who welcomed the University Management.

The celebration was officially opened by the Vice-Chancellor's representative, Ag. Registrar, RIO, Prof. Willis Ambusso, accompanied by Prof. Mildred Nawiri Ag. Registrar, Corporate Affairs. Delivering the Vice-Chancellor's speech, Prof. Ambusso emphasized the significance of geospatial technologies in evidence-based decision making, climate action, urban planning, disaster risk management, and national development. He reaffirmed the University's commitment to strengthening geospatial learning and research.



Prof. Willis Ambusso delivering the opening Speech.



Prof. Mildred Naviri makes her remarks on GIS Day.

The event sought to promote understanding of GIS applications, encourage interdisciplinary collaboration, showcase innovative student projects, and enhance industry-academia knowledge exchange. Key activities included guest lectures from the Kenya Meteorological Department, NDOC, CIFOR-ICRAF, Kenya Red Cross, CPCS Transcom, Esri EA, Oakar Services, Youth Mappers, HOT, and OSM, focusing on emerging geospatial trends, including AI. Students presented projects on utility mapping, disaster management, public health, and urban development. Workshops provided hands-on experience in spatial analysis, remote sensing, and open-source GIS tools, while industry partners demonstrated advanced innovations.



University management representatives; Prof. Mildred Naviri (on the right), Prof. Simon Onywere, Prof. Willis Ambusso, Mr. James Magige (KU Alumni) and Dr. Laji Adoyo. Standing invited partners and KU staff members..

Participation was strong, drawing undergraduate and postgraduate students, faculty, and representatives from partner institutions such as Esri EA, Oakar Services, KMD, NDOC, and the Kenya Red Cross. Students from Masinde Muliro University, JKUAT, TUK, Cooperative University, and Africa Nazarene University also attended, reflecting growing interest in GIS across disciplines.

The event strengthened University-industry collaboration, enhanced student enthusiasm for GIS careers, showcased Kenyatta University's leadership in geospatial education, and inspired new research ideas. Overall, the celebration was highly successful and reinforced the University's commitment to advancing geospatial knowledge, innovation, and partnerships.

Research Dissemination and Uptake



ARTFEST – An Epic Festival of the Arts



Dr. Esther Mbithi.

The Department of Literature, Linguistics, and Foreign Languages at Kenyatta University (KU) held an international Festival of the Arts in August 2025. The event celebrated the lives and legacies of the late Prof. Francis Imbuga and Prof. Oluoch Obura, both distinguished literature professors at KU who shared a passion for theatre and performance. This inclusive, three-day conference welcomed scholars, practitioners, and students from diverse disciplines—including languages, linguistics, literature, and visual/performing arts—to explore the dynamic intersections of theory, practice,

and pedagogy. The Festival of the Arts was officially opened at the Kenyatta University Amphitheatre. The Vice-Chancellor, Prof. Paul Wainaina, was the Chief Guest and was represented by the Deputy Vice-Chancellor for Administration and Finance, Prof. Paul Okemo. The ceremony was also attended by the Deputy Vice-Chancellor for Academics, Prof. Waceke Wanjohi, and the Dean of the School of Law, Arts and Social Sciences, Prof. David Minja.



Participants at the Arts Festival, August 2025.

A highlight of the opening included updates from emissaries of China, Japan, and Korea regarding research, funding, and employment opportunities available to the KU community. Following the official declaration of the conference opening,

the first presentation was an innovative performance lecture by Dr. Mshai Mwangola, a distinguished KU alumna (Class of 1990) and expert in performance studies from Northwestern University. Following the opening ceremony, the conference shifted to the International Language and Culture Centre (ILCC) for a vibrant mix of academic papers and cultural showcases.

Over three days, scholars presented over twenty research papers exploring theory, practice, and pedagogy. Highlights Included;

- Keynote addresses by prominent figures, including KICD Director Prof. Charles Ong'ondo and Prof. Christopher J. Odhiambo, focusing on the creative arts economy and the legacy of the honoured professors.
- Cultural presentations by KU students of Japanese, Korean, and German languages, as well as a performance of one of Prof. Imbuga's plays **"The Green Cross of Kafira"**, showcasing the university's diverse talent and international links.



The project team members during the workshop.

Indigenous Languages Central to Equitable Governance

£2,240 &
£1,500

languages in schools, development of professional translation and interpretation standards, and collaboration with media and community influencers to popularize inclusive language practices in public administration.

The second workshop addressed the marginalization of minority language communities and persons with disabilities in governance. It emphasized the need for culturally grounded Kenyan Sign Language interpretation, highlighted the exclusion of visually impaired citizens due to limited tactile materials, and acknowledged the critical role of FM radio in sustaining linguistic diversity. Key recommendations included developing competent orthographies, encouraging scholarly writing in indigenous languages, institutionalizing sign language and braille training, adopting supportive technologies, strengthening vernacular advocacy through local actors, and enacting county-level language policies. Both workshops underscored indigenous languages as central to equitable governance and urged sustained advocacy beyond academic spaces, including the institutional integration of braille and sign language in county operations.

Prof. Catherine Ndungo, Prof. Peter Githinji, and Prof. Leonard Chacha from the Department of Kiswahili and African Languages received two research grants worth £2,240 and £1,500 from the British Institute in Eastern Africa to conduct workshops on **Language, Devolution and Social Mobilization in Kenya**. The workshops, held on 28th February, 2025 and 28th March, 2025 at Kenyatta University, convened scholars, government officials, civil society actors, media practitioners, and linguists to examine how language can strengthen governance, service delivery, and citizen participation within Kenya's devolved system. Particular focus was placed on the use of indigenous languages, sign

language, and braille in promoting inclusive democratic processes across the 47 counties.

The first workshop examined language policy gaps at the county level, especially the absence of formal structures to support indigenous language use in governance. Participants noted a decline in indigenous language competence among younger generations; the informal use of local languages by administrators without policy backing; and increasing reliance on vernacular languages for social mobilization. The forum recommended the translation of essential government documents into local languages, promotion of indigenous

CONFERENCE HIGHLIGHTS OF THE KU – IEK AJERI CONFERENCE



IEK Editorial Board courtesy call visit to the Vice Chancellor, Prof. Paul K Wainaina.

Kenyatta University (KU), in collaboration with the Institution of Engineers of Kenya (IEK), successfully hosted the 2025 African Journal of Engineering Research and Innovation (AJERI) Scientific Conference at the KU Main Campus. The event took place on July 24th and 25th, 2025, at the KU Confucius Institute (KU ILCC) under the theme **“Engineering for Transformation.”** It attracted more than two hundred participants, including engineering scholars, industry professionals, and students from across the region. The conference provided a platform for the exchange of knowledge, innovations, and emerging trends in engineering research.



Guests during the opening ceremony.

The conference was officially opened by the Chief Guest, KU Vice-Chancellor Prof. Paul K. Wainaina, who was represented by the Deputy Vice-Chancellor (Academic), Prof. Waceke Wanjohi. In her speech, she emphasized the value of strong partnerships between academia, industry, and professional organizations in advancing engineering innovation while upholding ethical standards and maintaining high-quality professional practice. Her remarks set the tone for a conference dedicated to excellence, collaboration, and transformative research.

The first day featured two keynote addresses. Mr. Justus Wabuyabo, CEO of the Nuclear Power and Energy Agency, presented on **“Nuclear Energy and Its Advances,”** highlighting the role of nuclear technology in Kenya’s future energy diversification. He was followed by Prof. Ratemo Michieka, President of the Kenya National Academy of Sciences, whose address on **“Integrity and Performance of Engineers”** underscored the importance of professionalism and ethical conduct for sustainable engineering development. Afternoon sessions comprised parallel technical presentations on energy systems, infrastructure, digital transformation, aerospace innovations, artificial intelligence applications, and recycled construction materials.

The second day commenced with an address by Eng. Grace Onyango from the Engineers Board of Kenya on **“The Journey to the Washington Accord,”** reflecting Kenya’s progress toward international accreditation of engineering training and practice. Further presentations addressed sustainability, transport systems, construction technologies, and environmental safety innovations.

The conference concluded with remarks from IEK President Eng. Shammah Kiteme and KU DVC (RIO) Prof. Thoruwa, who reaffirmed the call to translate engineering research into impactful real-world solutions, marking the conference as a milestone in advancing Africa’s engineering transformation.



Guests during the closing ceremony.

Kenyatta University Champions Co-Development of Low-Cost Soil Sensors

By merging engineering, art, and agricultural science, the project showcases how global collaboration can generate locally meaningful solutions. For Kenyatta University, it reinforces the institution's commitment to research that empowers communities, strengthens food security, and builds resilience in smallholder farming systems. Ultimately, the initiative aims to ensure that every farmer, regardless of location or resources, can access reliable, eco-friendly soil testing tools and make informed decisions for a sustainable agricultural future.

A key milestone was a farmer workshop held on 5 November, 2025, at the Izaak Walton Inn, Embu County. The session, led by Dr. James Dixon (University of Strathclyde), Mr. Edwin Pickstone and Ms. Aoife McGarrigle (Glasgow School of Art), Prof. Njeru, and Dr. Caroline Wahome, a KU alumnus who completed her MSc and PhD in Microbiology, focused on hands-on demonstrations, discussions on soil health, and feedback on sensor design. The workshop brought together key stakeholders that included farmers,

researchers and key government officials from the ministry of agriculture and Department of Devolution.



Smallholder farmer workshop on low-cost soil sensors including smallholder farmers, project team and representatives from the ministry of Agriculture and state devolution offices.

MOBILITY/ VISITING SCHOLARS/ FELLOWSHIPS



Kenyatta University Faculty visit to Royal College of Surgeons in Ireland (RCSI)



Dr. Titus Kabiga 3rd left leading KU delegation at the Institute of Global Surgery at the Royal College of Surgeons in Ireland (RCSI)

The Institute of Global Surgery at the Royal College of Surgeons in Ireland (RCSI) hosted a delegation of faculty members from the School of Health Sciences, Kenyatta University (Dr. Titus Kahiga, Dr. Peris Wathiru, Dr. Kizito Shisanya and Prof. Jana Macleod) for a week-long collaborative seminar. The seminar, held over seven days at the RCSI offices, was made possible through the support of an Erasmus+ Grant.



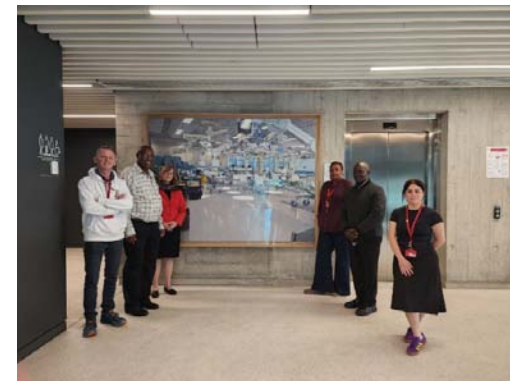
This high-level engagement aimed to explore diverse areas of academic and research collaboration, with a particular focus on the potential development and implementation of a joint postgraduate programme. Discussions centered on the feasibility of establishing a Master of Science (MSc) and Doctor of Philosophy (PhD) degree programme in Integrative Surgical Science and Global Surgery. The proposed programme seeks to bridge surgical science with global health priorities, fostering innovation, equity, and capacity building in surgical education and research.

The seminar provided an important platform for both institutions to share expertise, align strategic goals, and lay the groundwork for a strategic and

The areas discussed included joint MSc/PhD programme development standards, centre of excellence in global surgery and research, collaborative grant applications, academic exchange and faculty development programmes, curriculum innovation and digital learning integration among others. The Kenyatta University team made presentations and had fruitful deliberations.

To sustain momentum and foster continued collaboration, the teams agreed to hold regular monthly virtual meetings focused on joint programme development, grant planning, and strategic alignment. Additionally, a follow-up in-person engagement was scheduled for February 2026, during which a high-level delegation from RCSI will visit KU to finalize programme design, sign partnership agreements, and advance the establishment of the proposed Centre of Excellence in Global Surgery and Research.

The team greatly appreciates KU administration for supporting this partnership and is optimistic it will be mutually beneficial placing KU at a vantage point with regard to surgical training.



KU delegation at the Institute of Global Surgery at the Royal College of Surgeons in Ireland (RCSI)



KU delegation at the Institute of Global Surgery at the Royal College of Surgeons in Ireland (RCSI)



KU delegation at the Institute of Global Surgery at the Royal College of Surgeons in Ireland (RCSI)

Sharon Wanjiru Ngichiri visit to University of Naples Federico II, Italy



"In June 2025, I was privileged to have represented my school in an exchange programme between Kenyatta University and University of Naples Federico II, Italy. It was an exciting opportunity to travel alongside three other students from School of Health Sciences and together we immersed ourselves in new experiences.

During my stay in Italy, I am glad to have worked and learnt under the tutelage of Professor Monica Dentice, whose lab explores the role of the thyroid hormone both physiologically and pathologically (especially in cancer). The lab also happens to be an all-girls powerhouse, each dedicated to the pursuit of a Post doctorate, PhD, Fellowship or Masters education.

The lab was not only a place for learning but also for social and cultural exchange. During the lunch breaks, we would all gather in the dining area with our packed meals, and eat together. Coming from different cultures, we shared stories about our food and our countries. Through these conversations, I got to know Naples better, picked up new recipes and enjoyed the simple pleasure of connecting over a meal.



Dinner with Prof. Dentice and the Girls.

I enjoyed, every moment in the vibrant city of Naples, from the golden summer weather, the beaches, the flavorful cuisines the rich history and the warm-hearted people. We got to visit the catacombs, which are underground spaces where Christians held religious gatherings in secret and also served as tombs. The architecture and art within the Baroque churches in Naples are also a site to remember. On top of that, we dined in the world's oldest pizzeria, Antica Pizzeria, Port Alba which dates back in 1738.

I am sincerely grateful to Dr. Titus Kahiga, from Kenyatta University and Professor Condorelli Gerolama from the University of Naples Federico II, who oversaw the programme), ensured our preparations progressed smoothly and regularly checked in on us.



*In Antica Pizzeria,
World's oldest pizzeria.*

Looking back, my experience in Professor Dentice's Lab shaped me academically by offering me a rare opportunity to experience and appreciate the molecular biology aspect of medicine, from studying the enzymes in physiology to actual analysis of their effects at the cellular level. I have also seen how curiosity births many (whys) which are the foundation of every research endeavor. It came to my realization that science is a language that transcends borders, distance and language barriers, and unifies us in the pursuit of answers to every 'why'. This will not only shape how I approach studying science but also how I work and connect with others in a global setting.

Socially, I am glad to have experienced an environment that values presence, be it over meals, coffee, lab work and every other setting. This environment fostered free exchange of ideas, storytelling and also gave professional and social life a natural blend. I learnt as much about Naples from these conversations as I did by exploring the city itself. Naples being a city filled with friendly people, it would not be unusual to have a stranger strike up a conversation with me at the metro station, along the streets or just about anywhere. It is experiences like this that made me appreciate the importance of being multilingual.

Staff Mobility Experience at the University of Rwanda, Huye Campus

Dr. Jeremiah Mutuku Muneeni from Department of Literature, Linguistics and Foreign Languages was privileged to visit the University of Rwanda, Huye Campus.

Working closely with the Dean of School of Arts, Languages and Communication Prof. Canasius Rutenara and the Chairperson, Department of Arts and Modern Languages Dr. Jean Pierre Kwizera to deliver his mandate.

The objectives of the mobility included: teaching, holding seminars with postgraduate students, research, student mentorship and community service. Dr. Jeremiah Mutuku was able to teach these modules: Paraliterature, Literature and related Arts, and English Literary Genres; set exams, administer, mark and give results. He also held seminars with newly admitted PhD students guiding them on how to write a sound research proposal for thesis.

Dr. Mutuku authored a research paper in collaboration with Prof. Canasius Rutenara and Dr. Pravda Mfarankunda on challenges facing Higher Education Institutions in East Africa which will be published in the Journal of Humanities

and Social Sciences owned by University of Rwanda. Additionally, he managed to write one book chapter. Both have been sent to the publishers in Kenya and South Africa respectively for consideration. He also attended the 3 days Academic Private-Public Partnership Forum at M Hotel in Kigali organized by Inter-University Council of East Africa.

Dr. Mutuku notes,

"Apart from lecturing, I was heavily involved in guiding undergraduate students in writing their research proposals, their dissertations as well as assessing them during internship. My involvement in community work was at two levels: cleaning the city which is done every end month by all the people residing in Rwanda and motivating high school students".



Dr. Mutuku 2nd right with other researchers at the University of Rwanda, Huye Campus



Visiting Scholars hosted at the Department of Fine Art and Design



Prof. Mikkel presents a gift to Dr. Kaman Wango, Chairman, Department of Fine Art & Design.

The Department of Fine Art and Design in its quest for active collaboration touching on staff and student mobility exchange programmes, hosted a delegation from Makerere University, Kyambogo University, Technical University of Kenya and University of Bergen in Norway on Thursday 23rd October, 2025 at the Department. The agenda of the visit was for the four Universities to familiarize themselves with each other, their teaching programmes as well as the potential mode of collaboration in the wider area of Fine Art and Design. The delegation included Prof. Mikkel Wettré from the University of Bergen in Norway, Prof. Philip Kwesiga from Kyambogo University (Uganda), Dr. Mpindi Kibudde

from Makerere University (Uganda), Dr. Beatrice Misati from Technical University of Kenya and Dr. George Vikiru from the Department of Fine Art and Design.

Dr. Wango welcomed the visiting scholars and briefed them on the Department and its programmes. Every delegate had an opportunity to talk briefly about their respective Universities and Departments. Prof. Mikkel made a brief presentation of his Faculty at the University of Bergen and talked about the different programs within Art, Design and Music. He also talked about the Common Ground project and collaboration between the University of Bergen, Kyambogo and Makerere Universities that has run for the last 3-4 years, which would form the basis for the new collaboration. It was agreed that the impending collaboration was timely and necessary and that as a way forward, the necessary documentation and collaborative application will be done in early 2026 and the subsequent follow up will be carried through to ensure the commencement of the new common ground project in 2027.



Prof. Mikkel presents a gift to Dr. Kaman Wango, Chairman, Department of Fine Art and Design.



The visiting delegation at the Department of Fine Art and Design; from left is Dr. M. R. Kibudde, Prof. Philip Kwesiga, Dr. Kaman Wango, Chairman, Dept. of Fine Art & Design, Dr. Beatrice Misati, Dr. George Vikiru and Prof. Mikkel Wettré.

Mr. Saad Ghosn, a printmaking curator visit to Kenyatta University



Dr. Kamau Wango, Chairman, Department of Fine Art and Design with Mr. Saad Ghosn, visiting curator. Also in the picture is Mr. Santana Sino (Right) and Enoch Nyongesa, a student in printmaking (Left).

The Department of Fine Art and Design hosted Mr. Saad Ghosn, a printmaking curator from Cincinnati in the United States, on Thursday, 6th November, 2025. He is currently in Kenya to meet with artists and also to select works from Kenyan printmakers for an exhibition titled *'Voices of Kenya'* to be held in the summer in Cincinnati.

Mr. Saad selected some pieces from the Department that will feature in the coming exhibition and also held discussions with printmaking students. He also held talks with the Chairman of the Department, Dr. Kamau Wango who expressed the Department's willingness to participate in such exhibitions as well as other related collaborations. He further reiterated the Department's focus on improving printmaking as an artistic discipline as a broad strategy towards making students ultimately self-reliant as professionals when they leave the University.

Mr. Saad was accompanied to the Department by Mr. Santana Sino, a local curator with the Kibera Arts District who is also a former student of the Department. In attendance was Enoch Nyongesa, one of the current students interested in printmaking.

Kenyatta University Safety And Transferable Skills (Stash) Research Team Visits the UK



Dr. Purity Muthima and Caroline Nderi with the team from the University Brighton university skills hub

Kenyatta University Safety And Transferable Skills (Stash) Research Team led by Dr. Purity Muthima visited the UK with an aim to:

- ✓ **Meet the Careers, Employability and Entrepreneurship teams from the University of Sussex and the University of Brighton**

- ✓ **Share knowledge and best practice for transferable skills training and employability resource centres.**
- ✓ **Explore further potential collaborations for research and mentorship**

During the visit, the team had the opportunity to meet and share ideas with various staff from Brighton and Sussex Medical School, the University of Sussex and the University of Brighton. In a meeting with the chairman, Global Health and Infection department, Prof. Jaime Vera also noted that the team could leverage existing systems to build further collaborations such as students and staffs exchange. He observed that BSMS already had exchange programmes for medical students with other universities and would be open to exploring similar collaborations with Kenyatta University.



Chairman -Prof Jaime Vera, Dr Anne Gatuguta PI & host, Dr Purity and Dr Caroline Nderi -KU.



The Stach Team with the University University of Sussex team.

Meetings with these teams explored the various ways in which the represented institutions were supporting students to develop transferable skills and SGBV response to strengthen their employability opportunities. For instance, the Kenyatta University team highlighted the work being done by the KU-WEE Hub on youth employability and empowerment where Dr Purity Muthima led a study on the effect of Apprenticeship, Internships and Mentorship (AIM) programs on young women employment. It was interesting to hear how the University of Sussex's Careers and employability team embeds skills within the curriculum with lecturers being supported to incorporate skills development in their teaching.



The Stach Team at the University of Brighton team.

The team also had the opportunity to meet University of Brighton staff from various teams supporting employability such as entrepreneurship team, placements and internships, social mobility, skills hub and mentorship and employment advice who shared how they work synergistically in supporting the students. The visiting team also toured both university's Student Centres where students are supported to enhance their skills development for instance through CV writing support, interview preparation among others.

The KU team learnt how the universities invest time and resources to support employability development through providing data on labour market, supporting academia to incorporate skills development in course delivery and investing in students' support through staffs and resources. The teams observed that transferable skills play a key role in helping the students to deal with issues related to SGBV which can hinder progression both in academia and work. They also highlighted the need for research to inform skills development and agreed to collaborate on future research in this area. What was most thrilling is the University of Brighton Skills hub that we pray in the long run can be replicated in KU.



Dr. Purity Muthima and team members.



Dr. Purity Muthima at the University of Brighton Skills Hub.

Erasmus+ exchange programme



Mary Njoki Michuki - BSc. Medical Laboratory Science



A visit to the iconic tourist sites in ROME.

"From June 2025 to August 1, I had the opportunity to participate in the Erasmus+ student exchange program with the University of Naples Federico II, where I attended my elective in the Molecular Oncology and Biotechnology research department.

The program was very key for research experience, especially in molecular biology and genomics, or related, to be able to work and learn in high technology and develop soft skills such as adaptability, problem solving, and curiosity, among others.

I immersed myself in Italian culture, expand my academic knowledge, and meet people from all over the world.

Academic Experience

During my elective in the Molecular Oncology and Biotechnology department, under the guidance of Prof. Antonio Feliciello and my mentor, Prof. Francesco Chiuso, I successfully immersed myself in the world of research, which was my initial goal. I learnt techniques, basics, and complex procedures employed in the research laboratory and had the opportunity to work on research focusing on the structure and function of biological molecules and their roles in disease pathogenesis, such as the study of a specific protein DNA in cilia that may be useful in the control of ciliopathies.

I particularly enjoyed learning the

Western blot technique and all the steps involved, from pre- to later, which involved seeding cells to splitting the cells, transfection, harvesting, cell lysing for protein extraction, clarification, protein quantification using a spectrophotometer, performing immunoprecipitation (IP), gel preparation and loading, electrophoresis and transfer on membrane, blocking and antibody binding to finally analyzing the results on chemiluminescence.

Among other areas, I learnt Quality controls which is a necessity on all research procedures, preparation of reagents or solutions needed from stock solutions with keenness to accuracy, preparation of organoid cells and splitting, as well as a complete procedure on transformation, that is, exogenous DNA plasmids are implanted in bacteria (E.coli) for amplification to finally collect the concentrated DNA.

The teaching style was interactive, and the work colleagues were approachable and always willing to help.

Cultural and Social Life

Naples is a city full of life from the morning bustle in local cafés to the evening gatherings in the pizzerias.

I enjoyed exploring historic sites such as San Gennaro catacombs, San Gaudioso, the National Archaeological Museum, and Piazza del Plebiscito.

The food is unforgettable, authentic Neapolitan pizza, risotto dish, pasta with ragu, frittatina di pasta, and the gelato became regular treats.



In Antica Pizzeria, World's oldest pizzeria.

The community here is welcoming, and most people are friendly. It just starts with a random, "si bella."

Some of my most memorable experiences include visiting the ancient ruins of Pompeii, a weekend on the beach, a visit to the Villa Floridiana Park, and a trip to Rome's historic centers such as the Colosseum, the Pantheon, Trevi Fountain, and St. Peter's Basilica in Vatican City.

Personal Growth Challenges and Lessons Learned

Living in Naples helped me become more adaptable and independent, learning how

to navigate unfamiliar systems such as the transport system and cultures.

I also developed stronger intercultural communication skills, which will benefit me in my future career.

One of the initial challenges was the language barrier, as many administrative processes were in Italian, and the fact that most people speak Neapolitan.

I overcame this by using translation tools and seeking help from anyone who could help or understand English if necessary. Another challenge was to learn how to navigate through the diverse city of Naples, and the use of online tools such as Google Maps made it easier.

Conclusion

My Erasmus experience in Naples has been life changing. I now have a clearer idea about my professional career aspirations, It has enriched my academic journey, deepened my appreciation for cultural diversity, and given me lifelong friendships. I am grateful to Dr Kahiga, Kenyatta University School of Health Sciences, University of Naples Federico II, for selecting me, and my gratitude to Professor Condorelli and the team who guided us until we got here, and the Erasmus+ programme for making this opportunity possible.

Sharon Watati Nganga – Wamba Leon Bachelor of Medicine and Bachelor of Surgery



I was privileged to be a beneficiary of the Erasmus+ Student Mobility for a period of three months at the University of Naples Federico II between June

and August 2025. This came after a very competitive selection process. The exchange programme offered a chance to improve my research skills; enhance the knowledge I had gained throughout my four years of medical school and fulfil my dream to travel the world. I would draw from the fountain of science and nursery of knowledge; a place I was certain to thrive in.

Academic Experience

I was placed in a gene therapy lab located in the CIENGE -Biotechnologie Avanzate Franco Salvatore research center that operates in the field of molecular biology and advanced biotechnology applied to Human Health. I found enthusiastic masters and PhD students both international and from Italy working closely with the professors. I was moved by their warm welcome and dedication to teach and involve me in their ongoing projects. At the time of my arrival, many exciting projects were running at the lab. I was drawn to two of them; one exploring mutations in proteins linked to autism with the goal of informing current diagnostic methods and the other focused on using genetically engineered bacterial spores as vectors for cancer immunotherapy.

With a lot of patience and precision, I was taught essential lab techniques like how to split cells and maintain sterility while working under the hood. I was

guided through protocols like western blotting, transformation of cells, plasmid extraction, plasmid digestion and bacterial transformations. The theory that I had learnt in my immunology, bacteriology, virology, biochemistry and physiology came to life in the lab connecting beautifully to everything I was seeing and doing. A highlight of my time at the lab was observing amplification and purification of a T-helper adenovirus involving the use of a very impressive ultra-centrifuge.

Culture and Social Life



The city of Napoli is a buzz that never dies through the long summer days. The vibrancy of the people is evident through their culture, passion and rich history. One of the rituals I was most intrigued by the coffee breaks that not only serve as a recharge to get one through a busy

day but are also a chance to connect with colleagues and friends through conversation. These are personal moments of connection that we desperately need in a world that leans towards isolation and individualism. One walk through in any street in Naples will reveal their immense love for football.

One is sure to be greeted with a smile as you walk around Napoli. Although the language barrier is a major issue, the locals go out of their way to understand and offer help to their best. The city and its people are truly **bellissimo**. There's much to see and do in a city surrounded by mountains and the warm waters of the Mediterranean Sea. Of note is Pompeii, a city buried under 6 meters of ash after the eruption of Mount Vesuvius in 79 AD, which is a must visit archeological site that offers a clear glimpse of how life was in ancient Roman times.



It is impossible to talk about Italy and fail to mention the incredible food and Naples - the birthplace of pizza and has truly lived up to its reputation. The Neapolitan pizza baked in a traditional wood fired oven and topped with the best mozzarella and tomatoes was unlike anything I have ever tasted. I also got to have a variety of pasta dishes, ragù and wonderful pastries. Gelato quickly became a cherished part of my routine, especially on quiet Sunday afternoons when I would stroll through the almost deserted city, treat in hand, soaking in the beauty of Naples and cooling off from the heat one scoop at a time.

Conclusion

The past three months have taught me patience, resilience and courage to step out of my comfort zone and engage with a world that has so much to offer those who are brave enough to probe it. I have learnt the true value of working with people from diverse backgrounds. Immersing myself in a new language and culture has helped me shift focus, not towards our differences, but in many ways we are alike. I met individuals who like me had their passion and interest in research and using it to improve quality of health care around the world.

Wamba Leon MBCHB Bachelor of Medicine and Bachelor of Surgery

I spent part of my summer immersed in the world of Italian cardiology — where the coffee is strong, the people are brilliant, and the centrifuges double as gym equipment.

My mornings were spent in an ambulatory cardiology clinic, assisting with Electrocardiograms (ECGs) stress tests, spirometry, and gradually picking up the rhythm (and vocabulary) of echocardiography. What struck me most wasn't just the tech or the medicine though both were top-notch but the easy communication between the residents and their consultants, and also the quiet warmth with which patients were treated. Even though I mostly spoke in nods, smiles, and the occasional "bene," the human connection was unmistakable.

Afternoons were a different kind of heartbeat: the molecular cardiology lab. Under the guidance of Dr. Roberta Avisato, Dr. Antonietta Buonaiuto, two PhD students, and Dr. Antonella Fiordelisi not forgetting the ever-watchful hum of the centrifuge, I learned and became a full-time pro at isolating peripheral

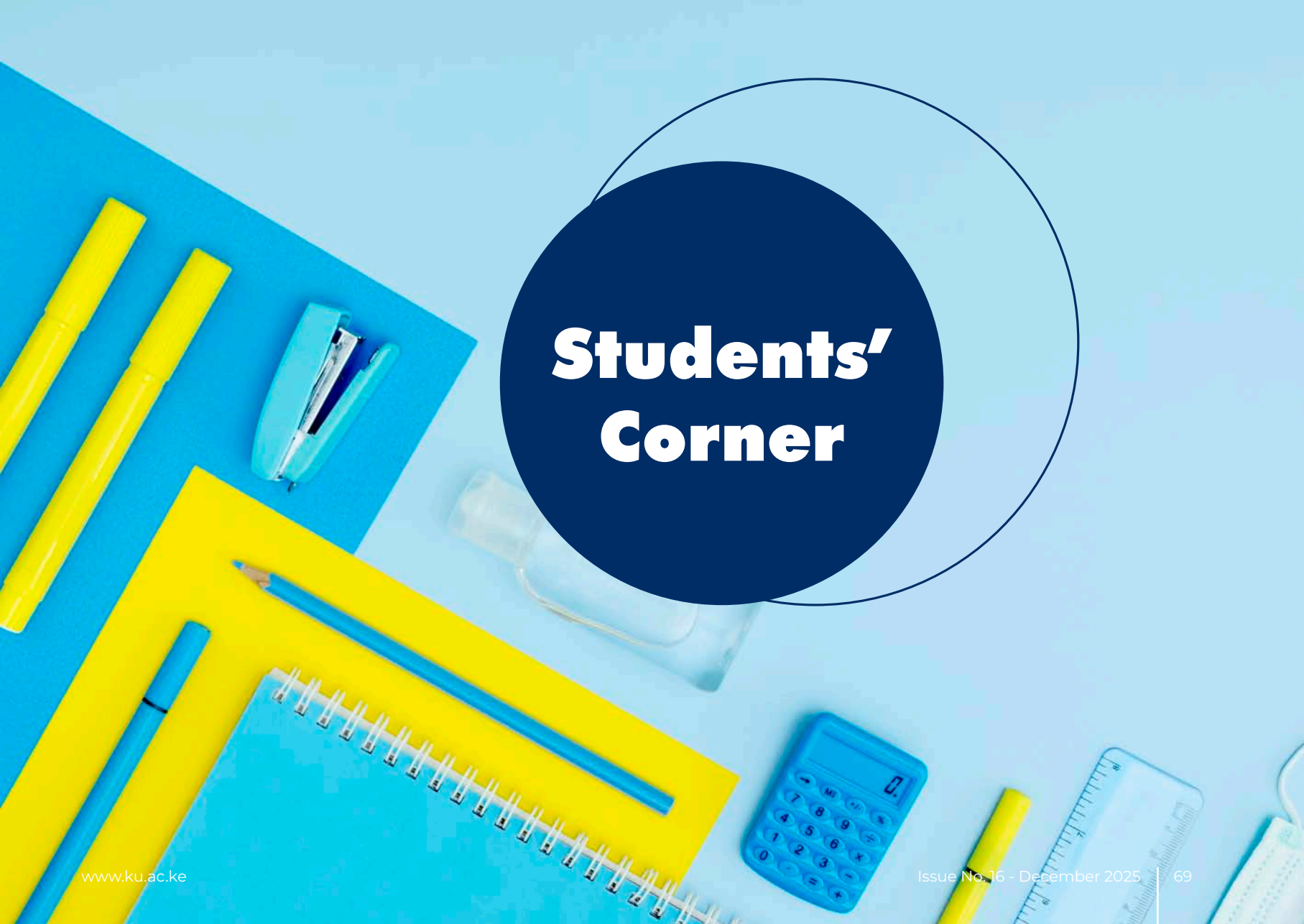
Outside the lab, Naples gifted me a rhythm of its own. Leaving for work each day became a ritual I quietly cherished a stroll to the convenient metro, where I could enjoy the city awaking before settling into a novel on the train. Sharing a grand miniature apartment with three of my female college mates (shout out to the girls!) was quite the exercise in diplomacy, laughter, and advanced kitchen choreography. (Pizza making skill levelled up!) Between fridge negotiations and spontaneous conversations, I learned the value of cooperative thinking and the joy of company that could flip from serious to silly in an instant.

Weekend adventures included a day trip to Rome, where we raced through history from the Colosseum to St Peter's Basilica through Piazza Navona, whose baroque splendor stirred a personal nostalgia. Years



ago, in primary school, nose deep in Dan Brown's *Angels & Demons* and imagining these streets; now I was standing in them, the fiction and reality overlapping like layers of an old treasure map.

and the perspective it gifts (especially when served with espresso). A heartfelt grazie mille to the professors, residents, lab team, the Kenyatta University center for International Partnerships led by the illustrious Dr. Titus Kahiga, who all made this journey possible and to those back home who helped me get here. I'm walking away with new skills, renewed purpose, and maybe... just (definitely) maybe... a lifelong fondness for Italian cuisine.



Students' Corner

Sowing Innovation: Low-Cost Tissue Culture for a Sustainable Future



Dr. Caroline Wahome.

For many Kenyan smallholder farmers, quality planting material can make or break a harvest. Yet, conventional tissue-culture seedlings, vital for boosting yields and disease resistance, remain expensive and often out of reach. Determined to change that, Dr Caroline Wahome, a proud Kenyatta University alumnus, dedicated her PhD research to developing low-cost, locally adaptable tissue-culture techniques that bring modern plant science closer to the people who need it the most. Her doctoral

work, *“Banana Rhizosphere Microbial Diversity, Low-Cost Tissue Culture Bananas (Musa spp.). Micro-propagation, Genetic Fidelity and Acclimatization Using Arbuscular Mycorrhizal Fungi,”* explored how to make banana micro-propagation more affordable without sacrificing quality. She experimented with accessible laboratory materials, natural growth media, and beneficial fungi to enhance the survival of tissue-cultured plantlets once transferred to soil. The result was a simple, effective, and sustainable approach that small laboratories can adopt.



Dr. Caroline Wahome's checks the progress of young banana plantlets at the Kenyatta University greenhouse.

Behind this achievement stood an exceptional supervisory team whose mentorship helped shape both the research and the researcher. Prof. Omwoyo Ombori, the project's Principal Investigator and a recipient of an NRF research grant, provided visionary leadership in biotechnology and guided the scientific rigour that underpinned the work. Dr. John Maingi, with his deep experience in microbiology and plant science, offered technical insight and steady academic guidance, while Prof. Ezekiel Mugendi Njeru,

renowned for his collaborative research with smallholder farmers, ensured the work remained relevant to Kenya's agricultural realities. Together, their support exemplified the power of multidisciplinary mentorship, blending microbiology, biotechnology, and field-level agricultural understanding.

Dr Wahome's research has led to three peer-reviewed publications, two conference presentations, and wide recognition within and beyond Kenyatta University. Her findings have been showcased at farer led workshops, academic forums and trade fairs, where she represented the university, demonstrating how scientific research can yield tangible benefits for farmers. Her innovations not only lower costs but also democratize access to clean, high-quality planting material, an essential step toward improving food security and rural livelihoods. By focusing on affordability and practicality, her work paves the way for local labs, youth groups, and women's cooperatives to venture into small-scale tissue-culture enterprises.

Dr Caroline Wahome's journey is a testament to what can be achieved when research, mentorship, and community needs intersect. Through the support of her supervisors and Kenyatta University's commitment to applied science, she has turned academic knowledge into a tool for empowerment, proving that innovation grows best when rooted in collaboration, care and the fertile soil of mentorship.

Phenes Associated with Root Architecture Under Phosphorus and Nitrogen in Diverse Sorghum Reference Set



Joshua Magu in a Sorghum field.

Joshua carried out this research under the supervision of Prof. Steven Runo and Dr. Cathereen Muui. The research examined

how different sorghum varieties adapt to environments with limited nutrients by focusing on how their roots grow and develop. Sorghum, being a drought-tolerant cereal crop, shows remarkable

variation in root forms and functions, which greatly influences its ability to acquire nutrients and withstand harsh conditions. A collection of 123 diverse sorghum genotypes was evaluated under normal, low nitrogen, and low phosphorus conditions to understand how different plants adjust their root systems in response to stress. Using modern root imaging and data analysis approaches, the study revealed wide variation among the sorghum lines, reflecting their diverse origins and ecological adaptations. Certain varieties displayed root structures that were better suited for capturing nutrients efficiently, even in poor soils. The analysis further identified specific genetic regions that may contribute to these desirable root characteristics, providing valuable information that can guide future crop improvement efforts. Overall, the findings highlight that sorghum's ability to adapt to nutrient stress is influenced by multiple interacting genetic factors. This knowledge offers a strong foundation for breeding programs aimed at developing nutrient-efficient, climate-resilient sorghum varieties that can support sustainable agriculture in resource-limited settings.

Bridging Art, Science, and Farming for Sustainable Future

When Dr. Caroline Wahome completed her PhD in Microbiology at Kenyatta University, she wanted her research to make a tangible impact for farmers. That opportunity came when she joined Prof. Ezekiel Mugendi Njeru's team as a postdoctoral researcher, contributing to a unique interdisciplinary project that combines science, engineering, and art to develop low-cost soil sensors for smallholder farmers in Kenya.

The project is a collaboration between Kenyatta University, the University of Strathclyde, and the Glasgow School of Art, funded by the Engineering and Physical Sciences Research Council (EPSRC). It brings together a diverse team: Prof. Ezekiel Mugendi Njeru guiding the work with his deep experience engaging smallholder farmers, Dr. James Dixon, the Principal Investigator at Strathclyde providing engineering expertise, and Mr. Edwin Pickstone and Ms. Aoife McGarrigle from Glasgow School of Art leading creative design and printing techniques.

"I had no background in engineering," Dr. Wahome reflects, "but the interdisciplinary nature of the team allowed me to learn fast and contribute to a project that combines lab science, design, and practical solutions for farmers."

The team developed biodegradable soil sensors using carbon black and egg yolk inks printed on recycled paper. These sensors can measure key soil nutrients like nitrogen and phosphates, giving farmers real-time insights

into soil fertility in an affordable and sustainable way. Central to the project is co-development with smallholder farmers. Dr. Wahome helped design and implement a survey of soil-testing practices across Kitui, Embu, and Tharaka Nithi counties, ensuring that the sensors address farmers' real needs. Ultimately, the research culminated in a smallholder farmers' workshop at the Izaak Walton Inn, Embu, which brought together farmers, and key government stakeholders. Participants engaged in hands-on demonstrations, shared local knowledge, and provided feedback that will shape the next phase of sensor development. "Seeing farmers actively engage with prototypes and offer ideas has been incredibly rewarding," says Dr. Wahome.



Dr. Wahome at the Glasgow School of Art Lithography studio and at the Civil and Environmental Engineering labs at the University of Strathclyde.

The project has gained global attention. Dr. Wahome presented the work at the "Soil" exhibition at Somerset House, London, speaking to stakeholders, artists, and the

general public about the impact of low-cost soil sensing and farmer-led innovation. The success of the project has led to its inclusion on the World Map of Soil Heroes recognizing the team's contribution to sustainable agriculture and soil health.



Dr. Caroline Wahome presents her talk on low-cost soil sensors at the "Soil" exhibition symposium, Somerset House, London, on 4 April 2025, engaging stakeholders and the public on innovative solutions for smallholder farmers. ©NanaAma_2025_SOIL_Symposium_LoR-164.

Reflecting on the journey, Dr. Wahome emphasizes the power of teamwork: "Innovation thrives when diverse expertise comes together. With the mentorship of Prof. Mugendi, guidance from Dr. Dixon, creative input from the Glasgow School of Art team, and the active participation of farmers, we are turning ideas into real-world solutions."

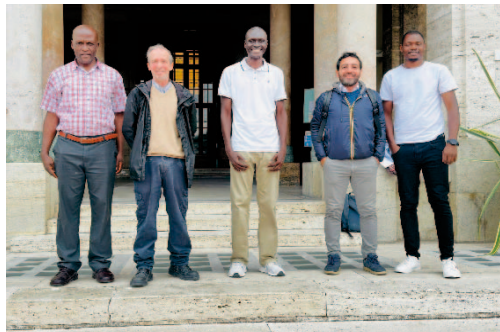
Fostering the Quality and Effectiveness of the Higher Education Systems in a Mutual Learning Environment



Mr. Kennedy Anyona in Leaning Tower of Pisa Italy.

Mr. Kennedy Anyona a second year Ph.D. candidate in the Department of Energy, Gas and Petroleum Engineering at Kenyatta University has been awarded a mobility grant by **UNITAFRICA** to cover costs of study and stay at the University of Pisa, in Pisa Italy, from October 2025 to April 2026. UNITAFRICA is program funded by the Italian government to

support cooperation between universities in Italy and Africa for **“Fostering the Quality and Effectiveness of the Higher Education Systems in a Mutual Learning Environment”**. The grant is awarded to support researchers and Ph.D. students from universities in Africa to conduct studies in state-of-the-art laboratories in universities in Italy for durations of variable length depending on program requirement.



From left to right are: Mr. Anyona M. Kennedy, Professor Franco Alessandro, Mr. George Martins Otieno Okech, Prof Carmelo de Maria and Eng. Augustine Waswa.

Mr. Anyona who is undertaking a project that proposes to use geothermal energy as preheat in glass recycling is expected to

design and develop novel heating devices that will reduce reliance on furnaces that are depend entirely on waste oil, thus making the process cleaner and more environmentally acceptable. While at University of Pisa in Italy, he is also doing a research project titled **“Integrated Energy Analysis of a Pilot Plant for Glass Regeneration Using Waste Oils and Low-Enthalpy Geothermal Sources”** expected to develop applicable theoretical models that will be adopted to minimize the carbon footprint of the glass industry, lower production costs, and extend the lifecycle of glass products.

Mr. Anyona M. Kennedy PhD student in School of Engineering and Technology-KU, **Professor Franco Alessandro**, Professor of Industrial Technical Physics-University of Pisa, **Mr. George Martins Otieno Okech** Msc Analytical Chemistry-KU, **Prof Carmelo de Maria**, Professor in the department of Bionics Engineering-University of Pisa and **Eng. Augustine Waswa**, Biomedical Engineer, currently masters student in Electronics and Instrumentation at Kenyatta University and University of Pisa (Bionics Tissue Engineering) Under **Afya Moja** program

“Low to Medium Temperature” for direct-use applications



James Mariaria (middle) with his supervisors, on the left Prof. Fredrik Hugland and Dr. Nishit Desai on the right.

Mr. James Mariaria, a third year Ph.D. candidate in the Department of Energy, Gas and Petroleum Engineering at Kenyatta University, completed a two

and half month residency period, from 15 September 2025 to 21 November 2025, in the Department of Civil and Mechanical Engineering at the **Technical University**

of Denmark (DTU). Mr. Mariaria's studies at Kenyatta and DTU are funded by **the Ministry of Foreign Affairs of Denmark (MFC)** and administrated by **Danida Fellowship Centre (DFC).** The project consortium, led by energy researchers in DTU and Kenyatta University brings together an excellent mix of partners with considerable experience in geothermal energy development and research. This team includes Kenya's energy leading utility, **The Kenya Electricity Generating Company (KenGen),** Alfa **Laval,** a re-known technology suppliers, company-based in Denmark and **Oserian Development Co LTD** of Naivasha, Kenya, among others. Mr. Mariaria's project focuses on utilizing fluids produced by geothermal wells with “**Low to Medium Temperature**” for **direct-use** applications. Specifically, the project aims to design, develop, install, and test a cascading system that utilizes a single geothermal heat flow to meet multiple heating processes with different temperature requirements. If successful, this design could enable industrial-scale applications of geothermal energy, such as baking various agricultural cereals and grains.

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