SCIENCE KIBAO KENYA

GREATEST HITS VOL. 1

ROSE M. MUTISO & MAINA WACHIRA

CONTENTS

INTRODUCTION

Foreword

From the beginning, our team at the Mawazo Institute had ambitious aims for the 2018 Africa Science Week-Kenya (ASW-Kenya). We set out to diversify definitions of science and scientists in Kenya, to show that science is as accessible and interesting as it is important, and to encourage education, careers and entrepreneurship in science. Some of the ways we have pursued these goals include our Faces of Kenyan Science campaign, a nationwide multi-media campaign showcasing exceptional individuals contributing to the diversity of Kenyan science, our Nairobi Ideas Night events, which bring science to the public in an informal and engaging way, as well as outreach events for high school students in partnership with local education initiatives.

Nevertheless, these initiatives represent only a small sample of a long and living tradition of Kenyan excellence in science. To bring more of that tradition to light, we conducted extensive research to unearth some of the most compelling and surprising achievements we could find in Kenya's scientific history. Unfortunately, it would never have been possible to profile all Kenya's interesting people, discoveries, inventions and initiatives, but we believe that this is one small step towards publicizing important ways that Kenya contributes to the global scientific enterprise.

Some of these facts will be familiar to you, while others may surprise you with their unsung significance– famous breakthroughs appear here alongside lesser known accomplishments in agriculture, environment and conservation, medicine, paleontology and anthropology, technology and engineering, and others. But everything was included with the simple hope that it would renew your appreciation for the many hidden ways members of our society engage in science and the deep influence science has always had over our daily lives.

The word "kibao" in the book's title is a Swahili slang term meaning "a lot", and the coming pages offer a small window into this rich legacy of Kenyan science.

DR. ROSE M. MUTISO

CEO, Mawazo Institute
Next Einstein Forum Ambassador

ABOUT AFRICA SCIENCE WEEK

Africa Science Week is an initiative of the Next Einstein Forum comprised of concurrent week-long science engagement events taking place in 35 countries across the continent.

The 2018 Kenya edition of the event, Africa Science Week-Kenya (ASW-Kenya), will be held from December 3rd to 7th 2018 under the theme, 'Science at Work in Kenya.'

At the centre of ASW-Kenya is our flagship Faces of Kenyan Science campaign, a nationwide multi-media and multi-platform campaign featuring 20 exceptional Kenyan researchers, practitioners, innovators, educators, tinkerers and makers of all stripes. Throughout the week, we will be sharing stories of their work and scientific journeys through a number of creative outlets such as podcasts, social media, and public events. The campaign will also feature interesting facts about Kenya's long history of excellence in science, connecting the public both to Kenya's scientific past and its scientific future. We are taking the exceptional work of Kenyan scientists out of labs and offices and into our streets, homes and minds.

SPONSORS

THE AUTHORS

Dr. Rose M. Mutiso

CEO, Mawazo Institute &
Next Einstein Forum Ambassador for kenya

Dr. Rose M. Mutiso is the Co-Founder and CEO of The Mawazo Institute, which supports the next generation of female scholars and thought leaders in East Africa, and promotes public engagement with research. Rose has worked extensively as a researcher and practitioner focused on technology and policy dimensions of energy, environment and innovation issues globally. She is a Materials Scientist with research experience in the fields of nanotechnology and polymer physics. Rose is passionate about harnessing science & technology to improve lives, and elevating women to positions of leadership and influence in African society.

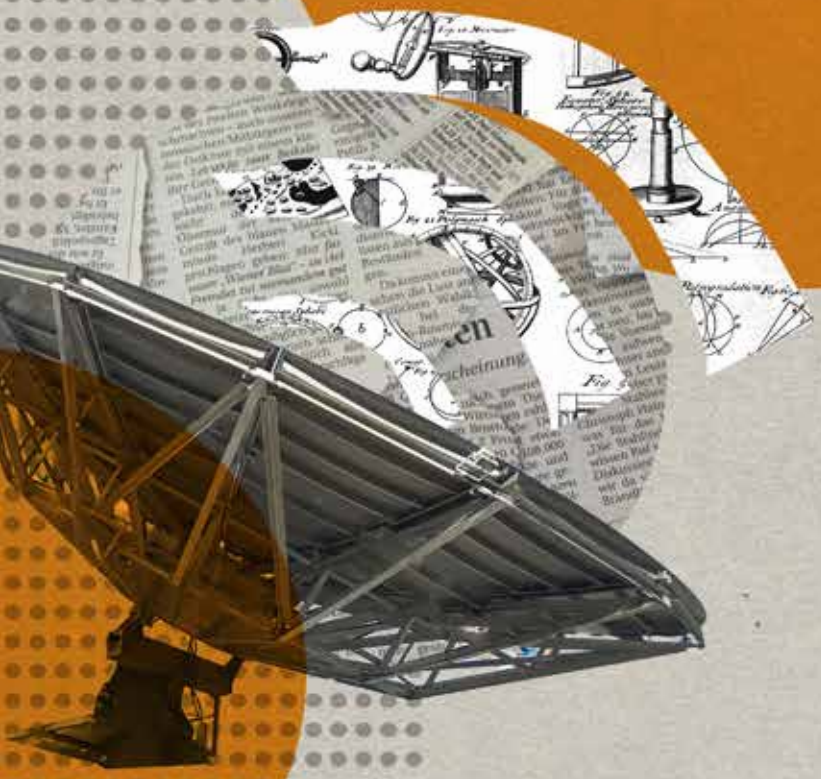
Maina Wachira

ASW-Kenya Research and Writing Assistant

Maina is a recent graduate of the University of Chicago, where he earned a Bachelor of Arts in Philosophy while exploring his interdisciplinary interests through coursework in mathematics and literature. Before joining Mawazo, he worked on the editorial team of Sliced Bread Magazine, volunteered at Open Books Chicago, and organised on Chicago's South Side with the Midwest Workers' Association in order to connect local residents to public utilities and legal help. During his time as a student, the sight of major academic institutions neglecting their local communities sparked his passion for supporting diverse research environments and publicly accessible knowledge.

KENYA SCIENCE HITS

For sources and to learn more, please visit
www.africascienceweek-kenya.org or www.mawazoinstitute.org



DID YOU KNOW?

SCIENCE IN KENYA

KENYA WILL SOON BE HOME TO PART OF THE WORLD'S LARGEST RADIO TELESCOPE NETWORK THAT WILL STUDY EVERYTHING FROM THE FORMATION OF GALAXIES TO THE BIRTH OF THE UNIVERSE.

AFRICA STAR POWER

In the coming years, Kenyan astronomy will get a boost as the country becomes one of eight African countries to host remote dishes for Square Kilometer Array (SKA), whose core sites will be located in Australia and South Africa. SKA will create the world's largest radio telescope and will improve our understanding of everything from exploding stars and black holes, to galaxy formation and the birth of the universe.

DID YOU KNOW?

SCIENCE IN KENYA

TRAILBLAZING KENYAN ENVIRONMENTALIST PROF. WANGARI MAATHAI WAS THE FIRST EAST AFRICAN WOMAN TO EARN A PH.D., THE FIRST FEMALE PROFESSOR IN KENYA, AND THE FIRST AFRICAN WOMAN TO WIN THE NOBEL PEACE PRIZE.

A WOMAN OF FIRSTS

In 1977 Wangari Maathai, then studying Animal Science at the University of Nairobi, left her position as Kenya's first woman professor to start the Green Belt Movement, an initiative that supported communities as much through reforestation as it did through nutrition, family planning, and women's empowerment. By 1997 the movement had planted 15 million trees in over 30 countries across the world while providing income for thousands. Maathai only continued to break barriers when she became the first African woman to win the Nobel Peace Prize in 2004.

DID YOU KNOW?

SCIENCE IN KENYA

KENYA MADE ITS MARK ON THE GLOBAL VIDEO GAME INDUSTRY WITH ITS FIRST LOCALLY-DEVELOPED, FIRST-PERSON SHOOTER VIDEO GAME RELEASED IN 2015.

A LEAP FORWARD

In June 2015, Black Division Games released Nairobi X, an exciting video game that thrust players into a future where they had to fight off an army of aliens invading Nairobi. This breakthrough made history as Kenya's first domestically developed 3D first-person shooter video game.

DID YOU KNOW?

SCIENCE IN KENYA

KENYAN RESEARCHERS ARE AT THE FOREFRONT OF THE FIGHT AGAINST A DEADLY CROP DISEASE THREATENING THE WORLD'S WHEAT.

ROUTING THE RUST

Plant breeders at the Kenya Agriculture and Livestock Research Organization are at the forefront of the global effort to develop wheat varieties resistant to a new virulent form of stem rust (Ug99), which once destroyed up to 80% of the wheat crop in parts of Kenya and threatens wheat production globally. Their field research site in Njoro has emerged as a leading global collaborative platform where thousands of plant samples from all over the world are routinely tested and screened for wheat rust vulnerability. They work closely with farmers to develop and test new resistant strains with diverse genetic backgrounds, getting ahead of the mutating Ug99 gene. These efforts are crucial to the world's food security.

DID YOU KNOW?

SCIENCE IN KENYA

KENYA IS HOME TO ONE OF AFRICA'S LEADING INSTITUTIONS FIGHTING TO SAVE THE WORLD'S BEES.

PROTECTING THE POLLINATORS

Since 2014, Kenya-based International Center of Insect Physiology and Ecology (ICIPE) has been home to the Bee Health Reference Laboratory – a facility that is now Africa's recognized center for the international effort to understand and protect the insects that help pollinate 71 of the world's 100 most important food crops. Since its founding, the laboratory has produced original research studying the disease resistance of African bees and documenting the causes behind the colony collapse that has been killing bees across the world for years.

DID YOU KNOW?

SCIENCE IN KENYA

IN MAY 2018, KENYA TOOK TO THE STARS WITH ITS FIRST HOME-DESIGNED SATELLITE.

TO THE STARS

On May 11th, 2018, Kenyan scientists at the University of Nairobi worked with the Kenya Space Agency and international partners to launch 1KUNS-PF, the country's first home-designed satellite. While in orbit, this first effort to take Kenya to the stars is expected to help with everything from weather forecasting and wildlife monitoring to basic research and disaster management.

DID YOU KNOW?

SCIENCE IN KENYA

VOLUNTEER BIRD-LOVERS ARE INVOLVED IN A 5-YEAR CITIZEN SCIENCE PROJECT TO MAP THE DISTRIBUTION AND STATUS OF ALL OF KENYA'S BIRD SPECIES.

BIRDERS UNITE

In 2014, the National Museums of Kenya teamed up with local conservation groups to start the Kenya Bird Map project, a citizen science project driven by the engaged efforts of regular Kenyans that became the first in over 30 years to try document the distribution and diversity of Kenya's bird population. The final data from all of Kenya's regions was published online just this year, providing valuable information to future scientists, conservationists, and bird-lovers alike.

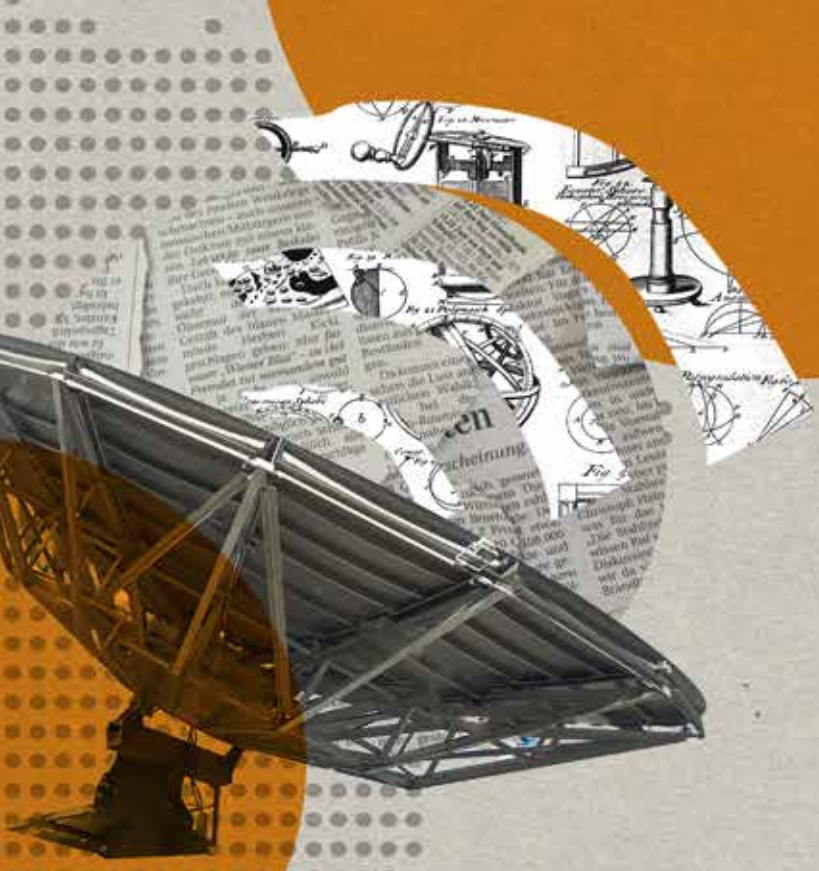
DID YOU KNOW?

SCIENCE IN KENYA

A KENYAN-RAISED SCIENTIST WORKING WITH LOCAL POPULATIONS WAS THE FIRST TO UNDERSTAND THE LINK BETWEEN MALARIA AND SICKLE CELL ANEMIA.

EXPLAINING ANEMIA

In 1949 Anthony Allison, a South-African doctor raised in Kenya, was studying blood samples from Kikuyu, Luo, and Masai people when he first noticed the correlation between malaria resistance and carrying the sickle cell gene. The insight he had in Kenya and the research that followed from it offered the first explanation for the high rates of sickle cell anemia in sub-Saharan Africa and remains to this day a textbook study in population genetics.



DID YOU KNOW?

SCIENCE IN KENYA

IN 2015, KENYA BECAME THE FIRST COUNTRY IN THE WORLD TO MAP ITS INFORMAL TRANSIT SYSTEM.

THE MATATU MAP

In 2015 Kenya's matatus became the first informal transit system in the world to have an online map when a team from the University of Nairobi worked with its international partners to begin Digital Matatus, a data crowd-sourcing project that has already documented over 3,000 stops on a system that serves 3.5 million people per day. Just this year, the project updated its routes in order to continue providing free, reliable data to passengers and policy makers alike.

DID YOU KNOW?

SCIENCE IN KENYA

KENYA IS LAUNCHING THE REGION'S FIRST RESEARCH CENTRE DEDICATED TO EXPLORING THE SCIENCE BEHIND TRADITIONAL REMEDIES.

OLD MEETS NEW

Just this year, Kenyatta University proved the unique possibilities of science in Africa through their new Reference Research Centre for Herbal Medicine. This initiative is dedicated to studying indigenous herbal remedies using contemporary science, and is the first of its kind in the region.

DID YOU KNOW?

SCIENCE IN KENYA

IN 2018, KENYAN SCIENTISTS HELPED REVERSE ENGINEER A VACCINE FOR A CONTAGIOUS LIVESTOCK DISEASE THAT COSTS AFRICANS OVER $60 MILLION IN LOSSES ANNUALLY.

WORKING BACKWARDS

In 2018 an international team including scientists from the Kenya Agriculture Livestock Research Organisation and the Kenya Veterinary Vaccine Production Institute used computer programs to analyze the DNA of the bacteria that causes bovine pleuropneumonia, or "lung plague." With this information, the team reverse engineered a new, affordable, and easily stored vaccine that – once it passes its trials – could help combat a disease that costs 24 million small-scale African farmers over $60 million each year.

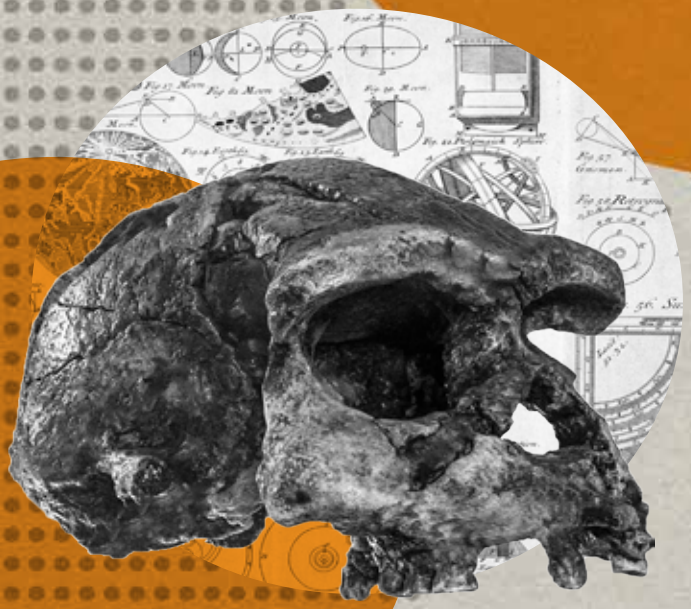
DID YOU KNOW?

SCIENCE IN KENYA

SINCE 2015, KENYA HAS BEEN USING THE REGION'S LARGEST DEEP SEA RESEARCH VESSEL TO MAP MARINE WILDLIFE AND GEOGRAPHY OFF THE COUNTRY'S COAST.

EXPLORING THE DEPTHS

In 2015 RV Mtafiti, Kenya's first deep sea research vessel and the largest vessel of its kind in the region, returned from a maiden voyage on which scientists from Kenya Marine Fisheries Research Institute studied off-shore fisheries and marine wildlife. Since then the project has continued to engage the country with marine science by hosting open days to let the public learn about its work and equipment.



DID YOU KNOW?

SCIENCE IN KENYA

EAST AFRICA'S EARLIEST AND LARGEST MONUMENTAL BURIAL SITE WAS DISCOVERED IN 2018 NEAR LAKE TURKANA, PROOF OF A 5000-YEAR OLD SOCIALLY COMPLEX SOCIETY.

A DIFFERENT DIRECTION

In 2018, archaeologists at the National Museums of Kenya worked with a team of international researchers to discover the Logthagam North Pillar Site, East Africa's earliest and largest example of monumental architecture. The findings at this site upend traditional anthropological models by showing that societies without rigid social hierarchies can still organize themselves to collectively build remarkable things.

DID YOU KNOW?

SCIENCE IN KENYA

COMMUNITY MEMBERS IN GAZI AND MKONGENI ARE THE FIRST IN THE WORLD TO LINK CONSERVATION OF MANGROVE FORESTS TO GLOBAL CARBON MARKETS.

LOCALS GO GLOBAL

In 2013, Kenyan communities in Gazi Bay came together with the Kenya Marine and Fisheries Research Institute to preserve their local mangrove forests by selling carbon credits. Their initiative, Mikoko Pamoja, made the region the first in the world to successfully link mangrove conservation to the global carbon market. Since then the community has raised over $25,000 and protected over 117 hectares of land.

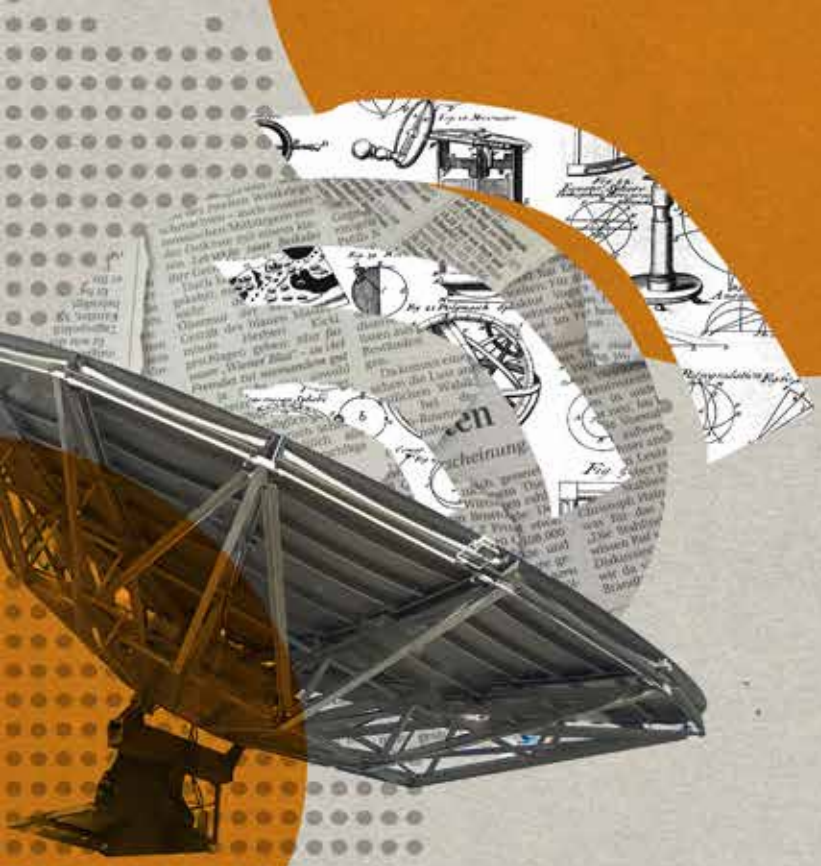
DID YOU KNOW?

SCIENCE IN KENYA

KENYA IS THE SITE OF ONE OF THE WORLD'S MOST EXTENSIVE EXPERIMENTS ADDRESSING POVERTY THROUGH A UNIVERSAL BASIC INCOME.

EXPERIMENTING WITH INCOME

Kenya is home to one of the world's most innovative economic experiments aimed at tackling poverty at the grassroots through a universal basic income (UBI), where unconditional cash transfers are made to all members of a community over the long-term. The charity GiveDirectly launched the 12-year UBI pilot in 200 Kenyan villages in 2016, making it one of the first true universal basic income projects in history. The experiment will be studied extensively by researchers to understand the impacts of UBI, and these findings will inform a wide range of anti-poverty policies across the globe.



DID YOU KNOW?

SCIENCE IN KENYA

IN 2007, KENYA'S LARGEST MOBILE OPERATOR LAUNCHED A MOBILE-MONEY REVOLUTION THAT IS SWEEPING THE WORLD.

A LEADING LIGHT

In 2007, Safaricom launched M-Pesa in Kenya. The platform has since raised an estimated 2% of Kenyan households out of extreme poverty and continues to lead a mobile money industry that accounts for almost half of the nation's GDP. With the Kenyan success as a model for the world, the mobile money revolution has begun to spread – expanding financial inclusion for millions in countries as far afield as Afghanistan.

DID YOU KNOW?

SCIENCE IN KENYA

IN 2008 KENYAN ACTIVISTS CREATED A CROWD-SOURCING PLATFORM THAT HAS SINCE PROTECTED THOUSANDS PEOPLE ACROSS THE WORLD.

PEOPLE AND POWER

In 2008, Kenyan activists and developers outraged by post-election violence came together to found Ushahidi, an innovative crowd-sourcing platform that collected and mapped reports of violence from across the country while traditional media struggled to keep up. Since then, Ushahidi has been used to protect human lives and human rights across the world: from mapping the destruction in Haiti after the 2010 earthquake and documenting extreme weather in Asia to recording voter suppression during the 2016 US election.

DID YOU KNOW?

SCIENCE IN KENYA

KENYAN RESEARCHERS DEVELOPED A VACCINE FOR EAST COAST FEVER, A DEADLY TICK-BORNE DISEASE THAT KILLS OVER A MILLION CATTLE IN THE REGION YEARLY.

FIGHTING THE FEVER

In 2013, Kenya and its neighbouring countries lost over a million cows to East Coast Fever. To end this problem, Kenyan scientists have been working to develop a better, cheaper version of the best vaccine currently available. As of 2018, their work has shown strong results: over 1.3 million heads of cattle have already been vaccinated and, now that the vaccine has been approved for commercial use, it has the potential to save East African farmers over $300 million each year.

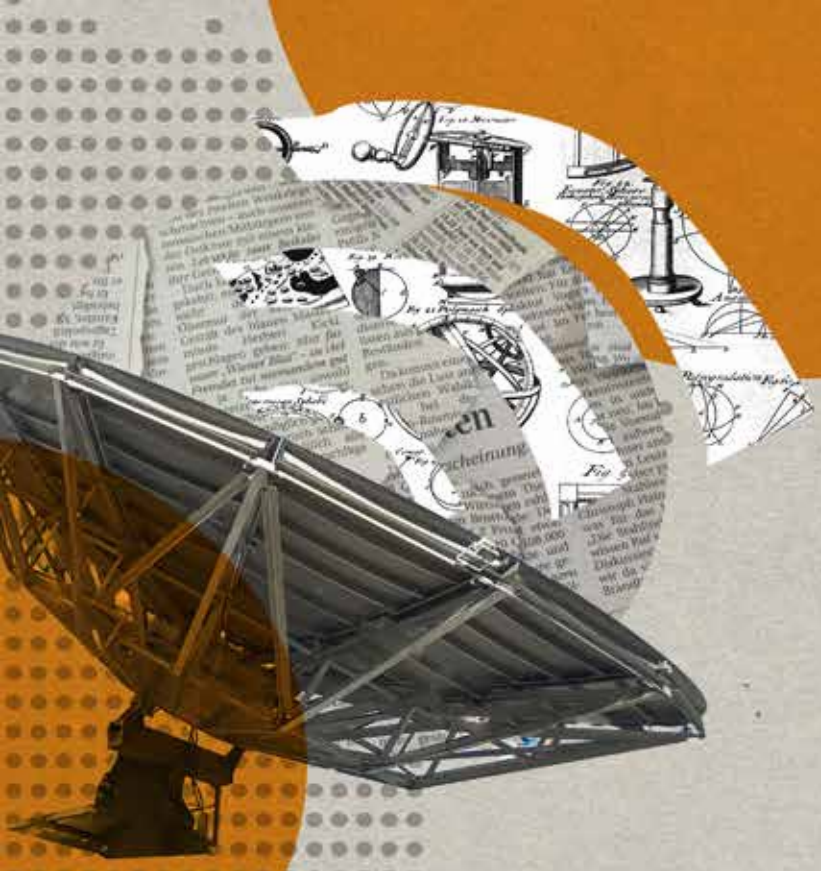
DID YOU KNOW?

SCIENCE IN KENYA

ANALYSIS OF A WHALE FOSSIL FOUND IN KENYA HELPED DATE THE GEOLOGICAL CHANGES THAT FIRST PUSHED OUR ANCESTORS TO WALK ON TWO FEET.

WHALES AND WALKING

In 2015, Kenyan paleontologist Frederick Manthi was part of the team that analysed the newly rediscovered fossil of a beaked whale originally found 30 years earlier in West Turkana. By showing that the remains of the aquatic animal were 17 million years old, the team was able to give the best estimate yet for when the land around the Rift Valley began to rise, a geological change which is believed to have turned the dense forests that once dominated the landscape into the familiar Kenyan savannah where our ancestors first began to walk on two feet.



DID YOU KNOW?

SCIENCE IN KENYA

IN 2017, KENYA MADE HISTORY BY LAUNCHING THE WORLD'S FIRST MOBILE-ONLY SOVEREIGN BOND.

THE STATE OF INNOVATION

In 2017, Kenya made history by launching the world's first mobile-only sovereign bond, M-Akiba. Although it has not yet met its targets, the government continues to support their innovative effort to change the nature of public fundraising, proving once again the possibilities opened up by Kenya's thriving telecommunications sector.

DID YOU KNOW?

SCIENCE IN KENYA

KENYA'S GEOTHERMAL POWER PLANTS WERE THE FIRST TO BE ESTABLISHED IN AFRICA AND ARE STILL SOME OF THE MOST PRODUCTIVE IN THE WORLD.

EARTH POWER

Between 1979 and 1996 Kenya Power Company installed the first geothermal-based power plants in Africa. Since then, the country's program has continued to be world-leading: providing almost 50% of the national electricity supply and ranking as the ninth-largest geothermal power producer in the world. Geothermal power is generated from the earth's thermal energy, and is a clean and renewable energy source.

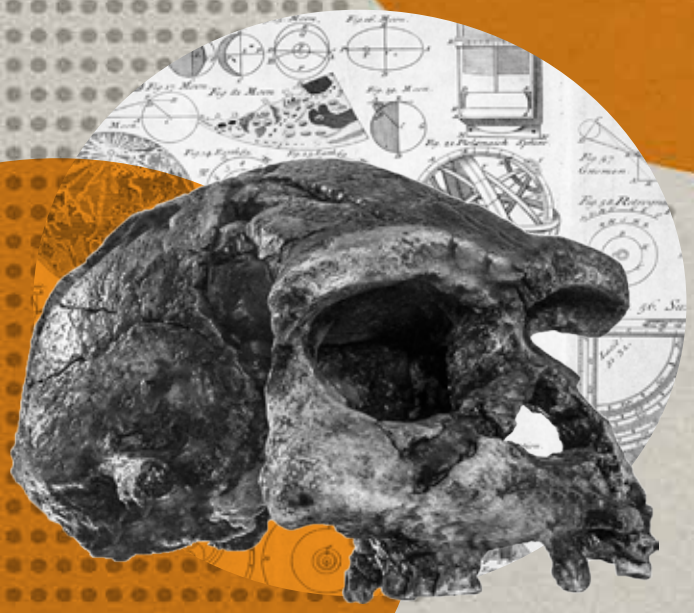
DID YOU KNOW?

SCIENCE IN KENYA

THE FIRST EARTH-ORBITING MISSION DEDICATED TO X-RAY ASTRONOMY WAS LAUNCHED FROM KENYA IN 1970.

LAUNCHING INTO ORBIT

On 12th November 1970, Kenya first made its mark on international space science when the NASA satellite Uhuru was launched from the San Marco platform in Malindi. As the first ever earth-orbiting mission dedicated to studying the stars with X- Ray astronomy, Uhuru made internationally important astronomical discoveries while also making local history.



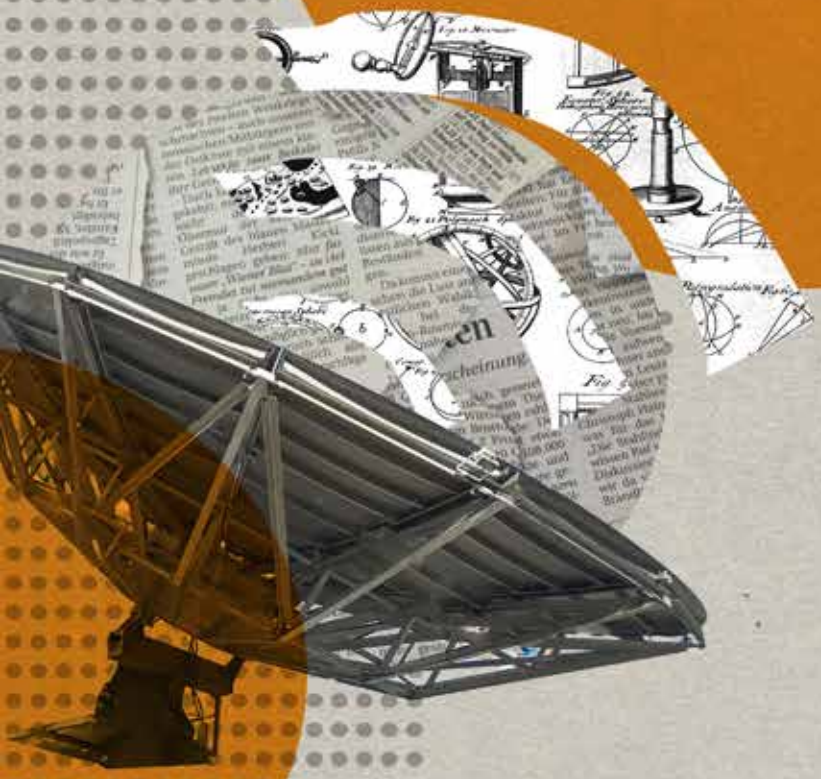
DID YOU KNOW?

SCIENCE IN KENYA

THE OLDEST STONE TOOLS EVER DISCOVERED WERE FOUND IN KENYA IN 2015.

TIMELESS TOOLS

In 2015 Kenya's rich record of paleontological finds continued when a team of international researchers excavating at the Lomweki 3 site in West Turkana unearthed the 3.3 million-year- old stone tools that remain the oldest ever discovered. This finding rewrote the history of creative toolmaking by pushing its beginnings back to long before our evolutionary line appeared.



DID YOU KNOW?

SCIENCE IN KENYA

KENYAN RESEARCHERS DEVELOPED THE FIRST LIVESTOCK INSURANCE SCHEME THAT USES SATELLITE IMAGERY TO PROTECT LIVELIHOODS OF PASTOROLISTS IN ARID AREAS.

SAVED BY A SATELLITE

Kenyan pastoralists in arid areas have long had valuable assets but little economic security. This began to change when Kenyan economist Andrew Mude and his team at the International Livestock Research Institute partnered with government and the private sector to develop an insurance product that uses satellite imagery to determine how patterns of drought affect the number of livestock likely to die. As of 2018, this initiative – which the first of its kind in Africa – has paid out over KSh 700 million to prevent 32,000 pastoralists in counties across Kenya from being pushed into poverty by their losses.

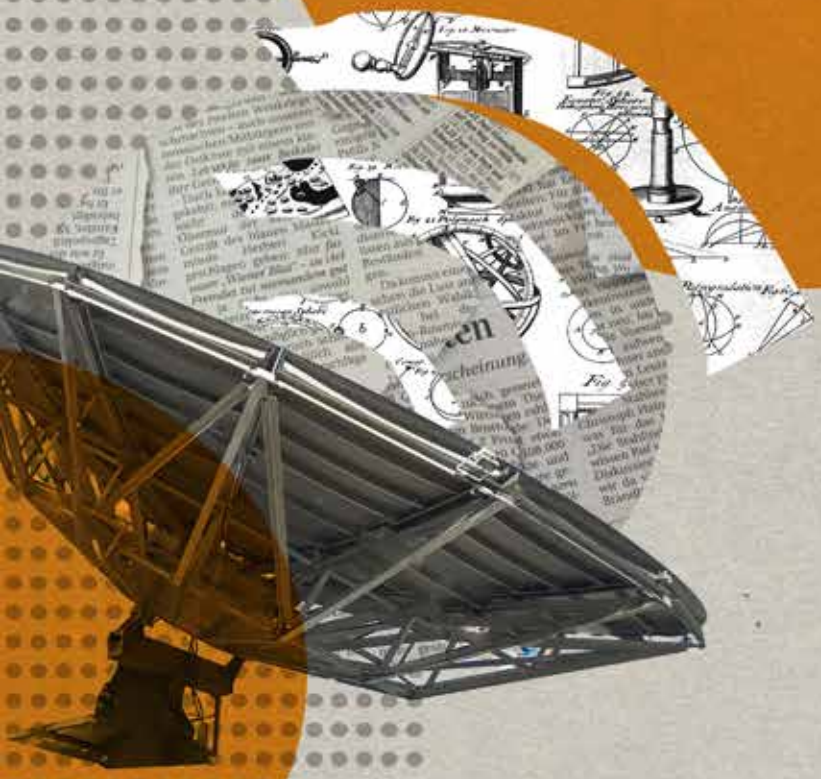
DID YOU KNOW?

SCIENCE IN KENYA

IN 1984, KENYAN ARCHAEOLOGIST KAMOYA KIMEU UNEARTHED ONE OF THE MOST COMPLETE HOMINID SKELETONS EVER FOUND.

THE TURKANA BOY

The son of a goat herder, Kenyan archeologist Kamoya Kimeu is considered to be one of the greatest fossil hunters of all time. In 1984, he confirmed this standing by finding the "Turkana boy," a 40% complete skeleton of a close but now extinct evolutionary relative, Homo erectus. His finding, which is still one of the best-preserved hominid fossils in the world, also helped scientists show that H. erectus had a tall body and long legs.



DID YOU KNOW?

SCIENCE IN KENYA

IN 2017, KENYA MADE HISTORY BY LAUNCHING THE WORLD'S FIRST MOBILE-ONLY SOVEREIGN BOND.

THE STATE OF INNOVATION

In 2017, Kenya made history by launching the world's first mobile-only sovereign bond, M-Akiba. Although it has not yet met its targets, the government continues to support their innovative effort to change the nature of public fundraising, proving once again the possibilities opened up by Kenya's thriving telecommunications sector.

DID YOU KNOW?

SCIENCE IN KENYA

ONE OF THE OLDEST KNOWN HUMAN ANCESTORS, ORRORIN TUGENENSIS, WAS DISCOVERED IN KENYA'S TUGEN HILLS IN 2001.

OLDEST ANCESTOR

In 2000, a fossil finder from the Tugen Hills, Kiptalam Cheboi, uncovered a strange specimen of the little known species Orrorin tugenensis. At about 6.2–5.6 million years old, O. tugenensis, or the "Millennium Man," is in the running to be the earliest of our ancestors to walk on two feet. Surprisingly, this Kenyan discovery seems to be an even closer relative of ours than world- famous, 3 million year old Lucy.

DID YOU KNOW?

SCIENCE IN KENYA

IN 2018 RESEARCHERS FROM THE KENYA WILDLIFE SERVICE HELPED TRACE INTERNATIONAL IVORY SMUGGLING CARTELS USING GENETICS.

WILDLIFE FORENSICS

In 2018, the Kenya Wildlife Service's Forensics and Genetics Laboratory was part of an international collaboration that run genetic tests on seized shipments of ivory. By using genetic markers to trace the tusks back to the homes of the elephants they were taken from, their impressive work used science to reveal the smuggling routes of international poaching cartels.

DID YOU KNOW?

SCIENCE IN KENYA

KENYA-BASED RESEARCHERS DEVELOPED ONE OF THE VACCINES CENTRAL TO THE ERADICATION A DEADLY DISEASE THAT PLAYED A ROLE IN THE FALL OF THE ROMAN EMPIRE AND COLONIZATION OF EAST AFRICA.

TO RID THE WORLD OF RINDERPEST

In 1962, researchers based in Muguga, Kenya working under Walter Plowright of the East African Veterinary Research Organization (a precursor to the Kenya Agricultural and Livestock Research Organization) created the first safe and effective vaccine for rinderpest, a deadly animal disease implicated in critical events in human history ranging from the fall of the Roman empire to the colonization of East Africa. Rinderpest wreaked havoc on the livelihoods of East Africa's pastoralists since it was first introduced to the region in the 1890s. The vaccine formula developed in Kenya, along with later improvements, became one of the cornerstones of the vaccination effort that finally eradicated rinderpest in 2011.

DID YOU KNOW?

SCIENCE IN KENYA

AFRICA'S OLDEST ENVIRONMENTAL SOCIETY IS BASED IN KENYA.

A CONSERVATION FIRST

The East Africa Natural History Society, or Nature Kenya, was founded 1909 to promote the study and conservation of nature in the region. It has been in continuous operation since then, and is thus Africa's oldest environmental and scientific society. Among the Society's most notable achievements is the founding of the National Museums of Kenya, as well publishing the Journal of East African Natural History since 1910.

DID YOU KNOW?

SCIENCE IN KENYA

KENYAN RESEARCHERS ARE AT THE FOREFRONT OF A GLOBAL EFFORT TO DEVELOP AN EFFECTIVE TREATMENT FOR VISCERAL LEISHMANIASIS, THE SECOND MOST DEADLY PARASTIC DISEASE AFTER MALARIA.

NEGLECTED NO MORE

Neglected No More. Kenyan researchers are part of a global team of researchers who are developing a safe and effective oral treatment for Vsceral Leishmaniasis (LV), a neglected tropical disease that causes up to 40,000 deaths in East Africa each year. The new treatment has made it to the last stage of its clinical trials, moving us closer to a cure that could save thousands of lives in the region.

FURTHER READING

Follow the links below to learn more about our Kenya Science hits.

AFRICA STAR POWER
https://qz.com/africa/1152775/africas-giant-ska-telescope-project-in-south-africa-ghana-botswana-zambia-kenya-and-others/

A WOMAN OF FIRSTS
https://www.nobelprize.org/prizes/peace/2004/maathai/facts/

A LEAP FORWARD
https://www.theeastafrican.co.ke/magazine/-Nairobi-X--puts-Kenya-on-world-gaming-map/434746-2773786-rwj7sez/index.html

ROUTING THE RUST
https://www.globalrust.org/blog/kenya-wheat-team-wins-prestigious-2015-gene-stewardship-award

PROTECTING THE POLLINATORS
https://www.nation.co.ke/health/Kenya-based-centre-lauded-bee-safety/3476990-4031712-rmlbqhz/index.html

TO THE STARS
http://qz.com/africa/1275698/kenya-to-launch-first-satellite-into-space/

BIRDERS UNITE
http://kenyamap.adu.org.za/

EXPLAINING ANEMIA
https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)60635-8/fulltext?code=lancet-site

THE MATATU MAP
http://news.mit.edu/2015/digital-matatus-project-makes-invisible-visible-0826

OLD MEETS NEW
https://www.nation.co.ke/news/education/KU-herbal-medicine-research-centre/2643604-4348810-xl9149/index.html

WORKING BACKWARDS
https://theconversation.com/how-a-new-vaccine-could-save-cattle-herds-and-livelihoods-101222

EXPLORING THE DEPTHS
https://www.standardmedia.co.ke/article/2000186065/kenya-s-first-survey-ship-winds-up-maiden-cruise

A DIFFERENT DIRECTION
https://phys.org/news/2018-08-massive-monumental-cemetery-built-eastern.html

LOCALS GO GLOBAL
https://www.unenvironment.org/news-and-stories/story/pictures-kenyas-coastal-conservation-heroes

EXPERIMENTING WITH INCOME
https://www.vox.com/2016/4/14/11410904/givedirectly-basic-income

A LEADING LIGHT
https://www.bbc.co.uk/news/amp/business-38667475

PEOPLE AND POWER
https://www.ushahidi.com/blog

FIGHTING THE FEVER
https://www.businessdailyafrica.com/economy/Kenyan-East-Coast-Fever-vaccine-now-gets-approval/3946234-4652858-143kkjiz/index.html

WHALES AND WALKING
http://www.latimes.com/science/sciencenow/la-sci-sn-ancient-whale-africa-river-20150316-story.html

EARTH POWER
https://www.theeastafrican.co.ke/business/Kenya-tops-Africa-geothermal-rankings/2560-4597146-e9nq9r/index.html

LAUNCHING INTO ORBIT
https://www.vice.com/en_us/article/qbwb7m/east-africa-space-program

TIMELESS TOOLS
https://www.smithsonianmag.com/science-nature/oldest-known-stone-tools-unearthed-kenya-180955341/

SAVED BY A SATELLITE
https://rethink.earth/how-kenyas-herders-got-their-livestock-insured

THE TURKANA BOY
https://leakeyfoundation.org/fossil-finders-kamoya-kimeu/

THE STATE OF INNOVATION
https://www.businessdailyafrica.com/markets/marketnews/M-Akiba-bond-investors-get-second-interest-payment/3815534-4380306-gn9k74/index.html

OLDEST ANCESTOR
http://humanorigins.si.edu/evidence/human-fossils/species/orrorin-tugenensis

WILDLIFE FORENSICS
https://qz.com/1395715/in-africa-genetics-helped-identify-three-major-ivory-cartels/

TO RID THE WORLD OF RINDERPEST
https://www.ilri.org/ilrinews/index.php/archives/tag/rinderpest

A CONSERVATION FIRST
http://naturekenya.org/about/

NEGLECTED NO MORE
https://www.dndi.org/2018/media-centre/press-releases/clinical-trial-find-new-treatment-visceral-leishmaniasis-begins-eastern-africa/

www.mawazolearningexchange.org