DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

8th Graduation Souvenir Magazine



DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

Published By

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Cover: *Unveiling of the busts of Dedan Kimathi and Nelson Mandela at the Heroes Garden*



17 *DeKUT BECOMES A DRAMA* ***AND THEATRE HUB***



21 *BSc. IN MEDICAL PHYSICS*



30 *CHEMISTRY DEPARTMENT CONTINUES* ***TO MAKE SIGNIFICANT PROGRESS***

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CENTENARY CELEBRATIONS OF NELSON MANDELA AND MAMA SISULU AND THE UNVEILING **OF THE BUSTS OF NELSON MANDELA AND DEDAN KIMATHI**

By Prof. Ndirangu Kioni

Dedan Kimathi University of Technology joined the celebrations of the birth centenary of Nelson Mandela and Albertina Sisulu upon invitation in February, 2018 by Her Excellency, Koleka Mqulwana, the High Commissioner of the Republic of South Africa to Kenya. It was in the subsequent discussions on ways of how to partner in this noble undertaking that her Excellency came up with the idea of erection of the busts and earnestly sought and secured a sponsor. The University had successfully worked before with the High Commission when it conferred President Thabo Mbeki with a degree of Doctor of Philosophy, honoris causa. The degree was in recognition of President Mbeki's vast contributions to Africa and conceptualization of the African renaissance, and translation of the same, in partnership with other African Presidents, into programmes under the African Union that have had profound impacts on Africa and its interactions with major world powers.

However, the basis for the collaboration in these recent events goes back decades; it is a historical link that goes back to emergence of Umhonto we Siswe and Mau Mau. These were renaissance moments when Africans came to the realization and decision that since the means of domination and oppression by European powers and their colonial successors was violence, and then the oppression had to be confronted with violence or a threat of violence in spite of the mismatch in the strength of instruments of violence between the two. The decision was a major psychological shift after a latency of almost two centuries. By his visit to Kenya, upon his release from confinement, and requesting to see Mama Mukami Kimathi, the widow of Dedan Kimathi, Nelson Mandela made an unambiguous and unequivocal statement on the significance of this historical link.

Dedan Kimathi University of Technology is by far the most important memorial to the Mau Mau freedom fighters, the leader Dedan Kimathi Wachiuri, and the individual experiences of all Kenyans during this period of military campaign to bring to an end British colonialism in Kenya. However, it is not a memorial just by name whose sweetness would smell the just same by any other name. It embeds the spirit and aspirations of the freedom fighters in its institutional DNA. It is guided by the ideals that the freedom fighters fought for and so clearly and succinctly captured in the weighty statements: "freedom and prosperity" – "wiyathi na ithaka"; a democratic, free and non-racial South Africa; and enunciated in our national constitutions. The foundation of prosperity of the society is mastery of technology.

Indeed, Africa is in dire need of another renaissance moment to shift the psychological approach to technology from the apparent mindset that technological development is something which is to be transferred or to be gifted to Africans by foreign well-wishers to a mind-set that realizes that technological development requires a determination to master and put into action application of science by ourselves and to mobilize a significant segment of population into this enterprise.

The University aims at producing graduates who judge others not based on their ethnicity ***but on the content of their character, to paraphrase Martin Luther King***

DeKUT as a University of Technology is deliberately creating an environment that fosters this shift amongst staff and students. In Kenya and across Africa, nations are always in stress arising from ethnic divisions and animosities. The University aims at producing graduates who judge others not based on their ethnicity but on the content of their character, to paraphrase Martin Luther King. The University has put this into action through establishment of such programmes as "Climb to Educate", special undergraduate common courses, that are designed to foster national cohesion and integration while building individual character.

The progressive development of the heroes' garden and the summer institute will continually connect the students and staff of this University to the heroic deeds and values of those who came before us, to our history and cultures. In erecting the busts of Nelson Mandela and Dedan Kimathi in the garden a giant "mugumo" fig tree of freedom, courage, resilience, relentless pursuit of just courses has been planted. They will play a subtle role in DeKUT educational experience.

We thank all those who participated and/or supported in one way or another the organization of these celebrations.

A DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY ALUMNA **HONORED AS THE YOUNG ENGINEER OF THE YEAR**



Mercy Wangari Mahinda- a Mechanical Engineer at Safaricom

I enrolled in Dedan Kimathi University of Technology (DeKUT) because it was close to my home and having studied in Nairobi for my high school, I wanted to be closer home. It turned out to be the best decision I made in terms of choosing a Higher Institution of Learning. DeKUT provided a serene learning environment and the resources needed in preparation for the corporate world. The University also opened up my mind and gave me the power to acquire even more knowledge."

Mercy Wangari Mahinda is our alumna, graduating class of 2015. She graduated with a First Class Honors in Mechatronics Engineering and is currently a Mechanical Engineer at Safaricom Limited. On 12th June 2018, she stood at the rostrum of Le Sporting Club in Monte Carlo in Monaco, France to receive the Young Engineer of the Year Award. The award given to Mercy serves as recognition of talented young and upcoming engineers. Winning this award means that Mercy has demonstrated her significance in her engineering role.

Mercy who enrolled to study at DeKUT simply because it is close to her home says that this decision turned out to be the best she ever made in regards to choosing a Higher Institution of Learning. Her choice of course was informed by her desire to understand how machines work and especially the ones that were automated. "I was fascinated by the idea of a machine having its own "brain" ", she says. After graduating, Mercy went to Safaricom under Women in Technology (WIT) internship program and thereafter got hired as a Mechanical Engineer. She works in the data center space with key responsibilities surrounding data center cooling and fire suppression. During her free time, she creates content on YouTube under Wangari Mahinda. Through the channel, she mostly shares tips that may be helpful in peoples' daily lives and also seeks to show that lady engineers are still normal ladies who are into fashion, hair etc. "Going into STEM careers doesn't mean losing one's femininity," she adds.

Mercy is inspired by change. "I love being part of the technological world that really helps in solving some of the world's problems and in the bigger picture improving the livelihood of humankind," she says. Her area of interest is energy and fire. She says this is because energy is life and it affects every facet of peoples' lives and fire because people seem not to be aware of fire risk. "A lot still needs to be done in terms of awareness and preparedness," she adds. In Energy, Mercy is a member of African Women Energy Entrepreneurs Framework (AWEEF); whose goal is to deal with energy poverty and in a clean manner. She says that she also ensures energy is utilized efficiently in everything she does. In the long run, Mercy looks to be involved in policy making.

Mercy says that DeKUT provided a serene learning environment and the resources needed in preparation for the corporate world. "DeKUT prepared me to face the world to some extent; the whole point of a degree or any other learning is to open up a person's mind and give them that power to acquire even more knowledge and I believe DeKUT did exactly that," she adds. Her major milestones are: Graduating top of her class in Mechatronics Engineering, Acquiring Uptime Certification; Accredited Tier Designer (ATD1941) making her the first lady in Kenya to have that certification and winning Data Cloud Europe-Young Engineer of the Year Award.

We are proud of Mercy and wish her well as she continues to make a difference in the world.



Kenneth Kinyanjui – A Technology and Product Leader

FROM THE UNIVERSITY DORM ROOM TO BUILDING DEVELOPER COMMUNITIES **ACROSS SUB - SAHARAN AFRICA**

While at Dedan Kimathi University of Technology (DeKUT), I co-founded a Pan African Fintech company from my dorm room and also started and contributed to one of the largest developer communities in the Globe with Google. The company moved on to being present in 16 African Markets under the leadership of my co - founders and I and we ended up raising more than 1M Euros in seed funding and serving thousands of merchants across the globe. DeKUT offered an environment that fostered innovation and success. The University has now built a reputation in the Kenyan Technology Community for producing some of the best talent in Software Engineering, Mechatronics and Electrical Engineering, Data Science and Entrepreneurship." – Kenneth Kinyanjui

Kenneth Kinyanjui is our alumnus, graduating class of 2016. He pursued Bachelor of Science in Information Technology. He knew what he wanted to study from an early age having been exposed by his dad who was a Civil Engineer and a Computer Scientist. After completing high school, Kenju (as he is commonly referred to by his campus classmates) enrolled at Strathmore University to study B. Sc. Information Technology. After one semester, he got a letter of admission through the government placement board to pursue the same course at Dedan Kimathi University of Technology (DeKUT) - then, Kimathi University College of Technology (KUCT). He was not sure moving was a smart decision but begrudgingly, he did and today he expresses that he does not regret that decision. It was the hope given by his mom that he can be successful from anywhere as long as he follows his passion that convinced him to join DeKUT and today he takes pride in having been part of this University and a pioneer in building tech communities at the University.

In addition to co – founding a Pan African Fintech company while at DeKUT, Kenju founded the Google Developers Group at the University commonly known as "GDG Kimathi University" putting the University on the map and starting a community with the culture of sharing, collaborating and innovating among the students. This community got the attention of Google and has for the last 4 years had representation at the Google I/O conference in San Francisco - Silicon valley, USA. Kenju became a country mentor and his work was scaling the GDG Kimathi University model across the country resulting to the establishment of over 17 chapters and also collaborating with other mentors in Sub Saharan Africa to share this model. He soon moved to being recognized as a Google Developer Expert in Google Cloud and the first from East, Central and West African yet again putting the University on the map. By that time, he was the youngest recognized expert globally. After his 3rd year of study, Kenju honed his craft and quickly gained reputation as a top notch Software Engineer in Infrastructure & Scale serving clients Internationally (San Francisco, London, Seoul) and Locally (iHub Consulting).

Kenju says that his key strengths lie in Technology (Infrastructure & Scale) and Product (Product Management) – "I see myself as more of a T- Shaped individual who has a wide experience in other sub fields and then an expert in Technology. In the new age, Technology will play a big part of taking us to the next level and I have spent time working on a lot of various problems and seeing how technology can make our lives easier."- He adds. Kenju is inspired by his belief in the potential of Africa as a continent and the role that there is to play to take Africa to the new level. To date, he has mentored and helped over 130+ Startups across emerging markets (Latin America, Sub Saharan Africa, South East Asia and Eastern Europe). Kenju is focused on enabling ecosystems in emerging market through building communities, powering entrepreneurs and lastly innovating through building new ventures. At the moment, he is consulting with a few organizations and helping them achieve Applied Artificial Intelligence, seeing how they can prepare for the next age and also how they can leverage on their data to build even better experiences for their customers.

Kenneth Kinyanjui is one among our many alumni driving our motto of "Better Life through Technology "and proving our belief that self-actualizationand solutions to global challenges are attainable through a spirit of dedication, self –confidence, determination, best utilization of resources and focus onquality education and creating an environmentthat fosters research, innovation and technology development.

HE IS NOT JUST AN ENTREPRENEUR **BUT A SOLUTIONS PROVIDER**

Except the obvious financial reasons, the desire to solve peoples' problems is what keeps me going. For instance, I realized that we have a serious scamming problem in Kenya and sought to provide a solution. That's how the escrowkenya.com concept was born." – Robert Kamaru

Towards the end of last year (2018), a headline in The Exchange Newspaper read' "Kenyan man cracks the code on warding off online fraudsters." This Kenyan man was/ is Robert Kamaru; our alumnus; graduating class of 2014. Robert pursued a degree in Actuarial Science and he says that although he did not join the actuarial profession after graduating, the analytical skills and an understanding of business risks has gone a long way in helping him sail through the entrepreneurship journey.

Robert founded Online Pesa Kenya in 2013, during his final year of study. Since then, Online Pesa Kenya has been offering Paypal to Mpesa services to Kenyan freelancers at onlinepesakenya.com. Before 2013, Robert was a freelancer until there was a crisisin the online freelancing industry; the only PayPal to Mpesa provider at the time had gone out of business, while there were hardly any other platforms that could facilitate PayPal withdrawals, as one could only withdraw funds from PayPal via a US bank account. Freelancers were earning money online but couldn't withdraw the funds. "I saw an opportunity and took it. I applied for a US bank account, raised capital from family and friends and started offering the service. Thousands of referrals and aggressive digital marketing campaigns later, the Online Pesa Kenya brand has become the go-to place for all matters online payment solutions for freelancers, boasting of a clientele of 5,000+ users and over 600 million shillings in transaction volumes."- He adds.

Robert's desire to solve peoples' problems and provide solutions did not end with Online Pesa Kenya. This is why in 2018; he and his partners launched a new product, escrow services, at escrowkenya.com to offer protection to buyers and sellers in a purchase, especially one that is done online. To explain what Escrow Kenya is all about, here is what he says: "Buyers are often wary of making a payment before receiving the goods or services purchased. On the other hand, sellers cannot ship products or provide services before receiving payment. Escrow Kenya bridges this trust gap by coming in as a trusted middle party that holds the buyer's funds while the seller makes the delivery and releases the funds to the seller once the delivery is accepted. If the delivery is not made, the buyer gets their money back."



Robert Kamaru, Founder, Online Pesa Kenya

He looks forward to building Online Pesa Kenya to be the merchant of choice in securing all kinds of online transactions in Kenya and East Africa

The one thing Robert considers a great achievement is building the Online Pesa Kenya brand to what it is today. He looks forward to building Online Pesa Kenya to be the merchant of choice in securing all kinds of online transactions in Kenya and East Africa. This is his 2019 goal.

As the University believes, self – actualization and solutions to global challenges are indeed attainable through a spirit of dedication, self – confidence, determination and best utilization of resources. Robert, among many of our alumni, is proving it.

SHE IS A PRODUCT MANAGER AT SCHNEIDER ELECTRIC KENYA; A GLOBAL LEADER **IN ENERGY MANAGEMENT AND AUTOMATION**

By Eng. Melvis Wanjiru Wachira

I was always interested in sciences since childhood. I learnt about Mechatronics Engineering course from a relative and I was fascinated by it. I was uncertain then about Dedan Kimathi University of Technology (DeKUT) but five years through the course, I do not regret the decision to join or any single moment I spent there. I had a great time and experience studying at DeKUT" – MelvisWanjiru

MelvisWanjiru is our alumna, graduating class of 2017. She pursued B. Sc. Mechatronics Engineering. Like many of our students, Melvis was a person of initiative and was involved in various clubs and participated in competitions that enhanced her skills and exposed her to great experiences and opportunities. With her area of interest being innovations and provision of solutions revolving around automation and energy management, Melvis says that studying at DeKUT was a good decision as she gained basic engineering knowledge and gained exposure through involvement in school and personal projects. Some of the major competitions she took part in while at the University are Robotics Competition, Go Green In the City Global Competition and World Energy Day Competition. "Studying at DeKUT was worthwhile due to various reasons ranging from available and qualified lecturers, well equipped laboratories, meaningful and challenging projects, clubs and societies among others." – She adds.

Melvis works with Schneider Electric; a global leader in energy management and Automation Company which she joined as a graduate trainee engineer a few weeks before her graduation. After graduating from the graduate trainee program, she took a new role in the line of product management for the industry portfolio. In her current role, Melvis manages the following products: speed drives, soft starters, PLCs, HMIs, sensors, relays,other control and signaling devices like pushbuttons, selector switches,indicator lights etc. "In this role I have been able to do successful launches of products both in the optimum and easy line ranges and as well as price repositioning." – she adds.

This young engineer has achieved several milestones in her career. She acknowledges a few achievements among many: being a woman in Engineering Fellow, being a finalist in the Schneider Electric Go Green in the City Global Competition held in Paris, France and a regional winner for Middle East and Africa and being the World Energy Day Competition winner by Eenovators Limited in 2016. These achievements



are badges she wears as reminders and encouragement that she has what it takes to thrive and be a contributor to change through her career. Melvis whose inspiration comes from her desire to become a better person each day looks to become a consultant and policy maker in matters energy management and automation in the long run.

Studying at DeKUT was worthwhile due to various reasons ranging from available and qualified lecturers, well equipped laboratories, meaningful and challenging projects, clubs and societies among others

EXPERIENCE AT THE UNIVERSITY OF SIEGEN

By James Maina

Alfred Mwachugha and I are MSc. Students in Mechatronics Engineering department, DeKUT. We had the opportunity to travel to the University of Siegen, Germany for an exchange through the Erasmus programme to do our research on 1st March 2018 for a period of six months in the field of wind energy. University of Siegen being a modern center for research prides itself in practical training, cutting edge research and enormous contribution to the structural, cultural, intellectual change of a dynamic world. It has an international outlook having an almost 14 % population of foreign students. Our study program included lectures and project work in the field of wind energy. We also took some German classes at the commencement of our program to enable us to communicate effectively with members of the university. The Master's programs provide an enlarged variety and flexibility to students in planning and to pursue educational objectives and also enhance the international compatibility of studies and thus global mobility. Some study programs are also instructed in English to attract a more significant number of incoming students.

We also took some German classes at the commencement of our program to enable us to communicate effectively with members of the university

One of the interesting things we learnt is that almost all of the residents there speak German and its dialects. We noted that average Germans have adopted western mode of dressing. They are mostly in simple suits, shirts, leather trousers. We learnt of their traditional costumes which are mainly worn during their festivals and carnivals. Most Germans are Christians, with about 30% of them being Catholics. There is a tiny Muslim minority in Germany. Something that particularly fascinated us is that Germans are voracious and disciplined readers. Almost half of the German population reads at least a book in a week. The German cuisines are some of the meals that we enjoyed the most, as well as their beer. Germans are outgoing people and during the weekends you will find them having a barbeque with friends.



James and Alfred from DeKUT and colleagues from University of Siegen,Germany during an event in Wildanau, Siegen



Alfred and James together with engineers from Siegen, Germany during a visit to Thomas Magnete Company

We were equally awed by the music festivals and opera houses where we got to enjoy the best of German music. Germany has amazing architecture and art. We were privileged to have experienced the German sporting spirit through the Bundesliga matches where spectators and fans throng the stadiums to cheer on their favorite teams.

Our experience in Germany was one of the best in our life and we really enjoyed our time there.

MY EXCHANGE EXPERIENCE AT GIFU UNIVERSITY

I am thankful to DeKUT for giving a lifetime opportunity to be an exchange student at Gifu University. Gifu University and DeKUT have a collaboration agreement for exchange of students for academic purposes and it is through this collaboration that I was invited as an exchange student. This has been an ongoing exchange program where DeKUT receives Japanese students and host them at DeKUT for duration, and in exchange, Gifu University receives our students and hosts them in Japan for a month or two. It was a memorable experience and Thanks to the support I received from Dr. Harrison Ngetha. I left Kenya for Nagoya, Japan on 27 February 2018 and was using China Southern as my airline. I had to transit through China in the following airports Guangzhou and in Shanghai Pudong and Honqiao airports to Nagoya but my trip was changed on arrival at Guangzou Airport since I went to the immigration gate instead of China Southern Airline desk. This mistake caused a change of my route to Osaka Japan instead of Nagoya (a blessing in disguise).

On arrival to Osaka I asked a gentleman who was next to me if he could advice me on how to reach to Nagoya.

His name was Mr. Okamoto since it was around 8.30 pm, he advised that for me to reach Nagoya I needed to clear quickly with immigration and rush to get the last train to Nagoya (normally in Japan public transport is from 5.30am to 9 pm.) but since this was not practically possible I would rather prepare myself to spend a night in Osaka. In Osaka and most of Japan. Amenities are booked online we had to shop around for hotel before deciding which hotel suited us. Mr. Okamoto gave me Wi-Fi from his phone I was now able to get in touch with my contact person Prof Takahiro Nitta, he also offered himself to take me through Osaka night life this included onsen (public bath) capsule hotel where I slept karaoke. It was memorable in Osaka. Mr. Okamoto made sure I met my contact person. In Gifu I worked with Prof Nitta on micro fabrication of Nano wires using microtubule coated with gold nanoparticle during this time I was able to appreciate the dynamics of Nano dynamics. This experience created a futuristic aspiration of becoming a researcher. Here I also met Mr. Titus who was working in Prof Nittas lab and happened to be also a lecturer from DeKUT. I also interacted with my former lecturer Mr. Waweru, who also was in Gifu.

While in Gifu University I was able to visit cultural site and industries. This included the following; sword makers of Seki which is famous for making swords for the samurais, Gifu castle which hosted King Oda Nobunaga, Takayama city which is famous for Hiida beef (one of the most expensive beef in the world) Shirakawa which is one of the ancient village and whose history is in the houses built, actually it is classified as UNESCO world heritage. I also visited Hoso industries which are involved with prefabrication of home building materials and Yaxell famous for making knives. During my stay I appreciated the high hospitability offered by Japanese to foreigners. From my arrival and also during my stay, Most Japanese are always ready to assist as illustrated by Mr. Okamoto.

The other thing is how they have maintained their environment, during my whole stay I never saw any litter, and the streets were always clean. Mr. Waweru and Mr. Titus made our stay nice as they always took us for shopping fun and they organized for us to have a ride on the famous Shikansen. Towards the end of my stay Prof Nitta organized us a lab Party. It was a great experience in Japan.



Josphat and Mr.Waweru on a ride on Shikansen, Lab party with Prof.Nitta, Titus taking us for shopping. Sword makers of seki, me and Okamoto seen in Nagoya railway station

REDISCOVERING THE CULTURE OF BOOKREADING

By Esther Hope

On April 10th 2018 I set out on a journey that helped change my life. I got the chance to go work abroad thanks to the IAESTE Club of Dedan Kimathi University of Technology. I was an intern in the Soil Mechanics and Foundation Engineering Laboratory at the Technical University of Kaiserslautern, Germany for a period of seven weeks. The university, TUK, stands for Excellent Technical Education thus attracting students from all over the world.
There being plenty of stereotypes about Germans made me eager to visit the country. First and foremost, I was shown hospitality from the moment I set foot in that country. People were willing to help me when I lost my way from the airport to the place I was meant to reside. Another thing I admired about the country was how efficient the mode of transport is. The trains and buses are well timed to cater for everyone's day-to-day activities. I believe this has helped shape the punctuality that is observed with most Germans.
The work environment at the laboratory was serene. There

was ease of communication between workers and their superiors. My supervisor, Mr Gunther, was very helpful in ensuring that I was able to put into practice the theoretical knowledge I had gained from school. In addition, I observed that there was no strict mode of dressing at the work place and music was played to entertain people as they worked. Almost every Friday afternoon, we used to have a barbeque at the lab, which was referred to as "chill and grill". This activity happened in every department at the school as means to bring to an end a long week.

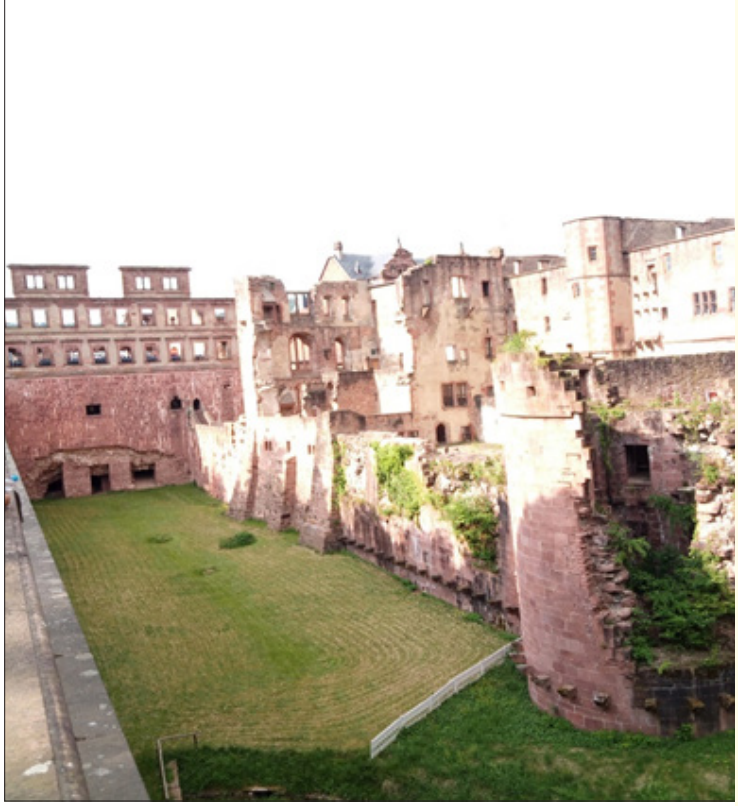
The book-reading culture of the people there was what intrigued me the most. Almost every German I encountered walked around with a book, be it at a restaurant or a swimming pool. One of my workmates at the lab, who read an average of two books a week, inspired me to adopt the culture and I can say it has had a positive influence in my life so far.

Almost every German I encountered walked around with a book, be it at a restaurant or a swimming pool

Additionally, Germans are beer lovers. Almost every meal is accompanied by at least a bottle of beer, which is made in different flavors. There are also several German cuisines that I found very tasty. Moreover, Germany being a country that attracts people of different ethnicities, I was able to sample foods prepared in different parts of the world, for instance Japanese sushi, Italian pasta and lasagna, Turkish döner kebab among other meals.

The university had several clubs that were meant to help the international students integrate well at the school. Through such clubs, for example AIESEC, I was able to meet so many people from all over the world, Rwandese, Greeks, Americans, Chinese, Colombians, Indians, the list is endless. Interacting with those people gave me an open mindset and a different outlook towards life.

During my stay in the country, I got to visit several beautiful towns like Heidelberg, and Bad Orb. It was amazing how



castles that were about a century old were still standing. The architecture and artistic set up of the country was breathtaking. Fortunately, I had the chance to attend several music festivals and acrobatic events that are often held in different parts of the country.

In conclusion, my experience in Germany was one of the best things that happened in my life. I urge my fellow students to apply for the exchange program. Moreover, I am grateful to the university for providing a platform for students to gain international experience. GO IAESTE!!

Esther Hope Wahu Nyokabi, Civil Engineering, Fifth Year Student.







MY CULTURAL EXPERIENCE AT HANNOVER

It's yet another substance of inspiration unto my career as a Mechanical Engineer that I was privileged to be among the IAESTE 2018 team to Germany.

Lo! 'It's so cold!' whispered one of concerned passenger on board unto me. The voice yet faint alarmed my ears while I tried to make my way out of the brilliant airport in order to meet Paul –IAESTE-LC Hannover, who had been waiting for me. Heighten inside me was a breathe of sigh after such long flight time from homeland, anxiety and excitement of being in such a great, first world, number one country. Preferably, I guessed this is what justified my hurry. Outside the vicinity, I thought it was 1600hrs from the look especially collating back in my country only to realize it was 1900hrs! Remembered longer Days and short nights and vice versa in the extreme hemispheres of the earth due to its motion around the sun. Conjointly, I could not easily tell that the temperatures outside were as low as 4 degrees, more especially having experienced the tropical weather back then in my homeland. At both close and far relation, magnificent architectural road designs, stylish buildings among many panache structures, could affirm that some technocrat, adept hands took time to bring such to existence unmistakably, if I may say so. Guess what! First experience on the eve of the Sunday first.

First off, may be a little about Hannover city where I was. Hannover is such a splendor northern part city of Germany.

Their advanced train transport connects various parts of German and has slow, RE which are fast and ICE fastest trains for passengers

Actually, is the capital city of the German state of Lower Saxony more so, it is known for trade fairs like the annual CeBIT tech expo? Among its pride grandeur of heritage include: The red-brick Gothic Market Church and the Old Town Hall stand among half-timbered houses in the rebuilt old town dating back the ages to 17th Century with the Herrenhäuser Gardens. Precisely, the ornate New Town Hall offers different city views from its dome with 4 different scale models of the city through the ages.

Yet of main interest was the research work that I was doing, I may say with the little time outside the work, I encountered beautiful experiences some of which I have cited below.

My first place to visit was the Hannover animal Park otherwise called Animal Zoo, this being among the unique park endorsed with many species of wild and domestic animals like the, monkeys and its special kinds, elephants, lion, fish, but most of all I was so glad to see some which are not in my homeland such as the intelligent sea lion mammal, which through training performs various task cognitively, just for it to feed on fish, also the iceberg, eagle, antelope kangaroo among many more so during their feeding time. I really enjoyed the beauty of the place.

Likewise, during the Hannover marathon, I met with some Kenyans furthermore; those who took part overwhelmingly, the great champions, who made us proud through their patriotism, in honor, gold from women marathon, silver and bronze from men marathon confirmed the joy.

Additionally, my other best social moments were when I attended SDA churches in Hannover, where I met with fellow brethren. Interesting, during my first Sabbaths, I could hardly, try to find out word meanings through reading their sign and body gestures to compliment few similar English words spoken at rare interval. Luckily, afterwards I could get someone to translate for me. Nonetheless, this was beautiful experience and a moment of significance of German language. Consequently, I thank Fraukeu for brief of basics. Respectively, I did attend the International SDA church where I interacted with large percentage of Africans, I thus shared with Ghanaians, Togo, Nigerians and this was wonderful sharing from their experiences too in this great country.

Beyond, I also managed to share some dinner with some students among them Germans, Kenyans. In the list, Kenyan team led by Tracy, in charge of African international students who come to Hannover. All this, was when one of us was preparing for return flight to Kenya after her successful completion of studies.

I did also love their food endowed with variety, and most of my favorite was Pizza.

On the other side, among the cities I visited included; Bremen and saw the Hanseatic buildings on the Market Square. Furthermore, I interacted with northern Germany, IAESTE leaders during their meeting at University of Bremen. Another city was Hamburg which is known as a major port city in northern Germany and is connected to the North Sea by the Elbe River. It's crossed by hundreds of canals, and also contains large areas of parkland. Near its core, Inner Alster Lake is dotted with boats and surrounded by cafes. Of all, I did love the underground tunnel through water where small cars pass while above is water crossing Ship marine, not to forget the nice in design and structure, the re-know bridge for heavy commercial vehicles.



Tram used for travelling around Hannover city @Üstra Service Centre City

Notably, I must also in a very special way express my likes about Germany, say about their savoir-faire. First off, taking account their advanced train transport both for Regional which connects various parts of German and has slow, RE which are fast and ICE fastest trains for passengers, additionally, they have cargo transport trains to and it was so nice having a chance to ride in them especially, I did stay 26km away from town but I used less than 22 minutes in slowest and about 10 minutes using RE train to arrive in time. The tram also that drives both underground and mainland, in Hannover town, and also in roads and these joins the Hannover prefecture, I could use these severally, to join from town to Gottfried Wilhelm Leibniz Universität Hannover-IDS. All these transport was aided because the university caters for about 78 Euro/month ticket, for student's U transport system. I loved Germans because they are decisive and honest in their doings and words, they keep time, their generosity and hospitality like the family of Thomas and Fraukeu Kuhlmann who hosted me during my stay besides the many whom expressed their 'likes' about Africa and some who have visited Kenyan as tourist, also most of them show brotherhood and ready to help one another. Just to sum up, physical fitness, whereof, many Germans highly esteem both old and young through such: bike racing/cycling, spots, athletics, skating are just but a few which they use to keep fit, healthy and relax mind after much weekly work.

To talk about their education system, when I visited their labs from the faculty of mechanical, I really admired and noted how they are so advanced, equipped, modernized to suit current industrial technology trend and also specialized because they value institutes comparable to main university thus enhancing quality expertise rather, and this justifies realization of advanced technology, through invention.

During the period, I did research on 3D printing with structural dynamics whose main goal was to act as a simplifier for learning of structural dynamics among students both through modeling, analysis and demonstration. Generally, I acquired lots of skills; both in design, modeling and analysis of the portal frame structures, with use of ANSYS, MATLAB, 3D printer and Experimental set-up ,in the process.

On the other hand, I must say my few hard times. During my early days despite being given orientation, I found it hard when I got lost in the underground train station by boarding different direction. [Hannover is the hub of regional trains to northern Germany cities with nice well designed, busy train, tram station]. Luckily, my ticket covers wide area, thus when I came to this realization, I alighted at some stop station, and after asking for directions, thenceforth, I did acquire more skills and never again got lost for the entire period, since I could read the various signs, I did travel on my own far places and got used to Hannover town. I even could help some of international students to find their way easily. Additionally, at some point, I did decide to board a bus instead from Hannover town to Wunstof, being sure of direction, but after almost Dedensen/Gu mmer station, I remained alone as a passenger on board and when the driver had driven into the busy identical mansions street, he stopped at a bus station and told me this the end point, Oh my! I gathered courage and prayed to God inwardly, and alighted not knowing my final directions, however, I was lucky to have my German (EU) subscriber identification module card (SIM) loaded with data bundles, thanks to Google map, it helped me find my way to the next train station where despite waiting for too long for the slow train, I finally arrived home.

Finally, I wish to extend my sincere gratitude to God Almighty for His sustenance and also opening ways unto me in my life like these. I wish to thank also The University, being led by Our VC Prof. P.N. Kioni for all collaborations and recommendations of oversee, which aids and allows for internal students' experience. Much thanks to Gottfried Wilhelm Leibniz Universität Hannover Institute head: Prof. Dr-Ing. Jörg Wallaschek, my supervisors, Dr-Ing Sebastian Tatzko & Dipl-Ing. Gabriel Ertz for all my successful research, DAAD for their scholarship unto me, IAESTE both in my university and also at Hannover, my parents and Siblings, friends who helped me a lot inclusively, Paul Kuhlmann, Naomi Deborah and all those others who aided this success may God of heaven bless you. Finally, I wish to also thank the Canaan family.



VW sign in Hannover town



JAPAN STUDENT SERVICES ORGANIZATION (JASSO) AT GIFU UNIVERSITY

I am Gloria Ndenga Odira, 21 and fourth year undergraduate Civil Engineering student of Dedan Kimathi University of Technology. I went to Japan under JASSO scholarship on 6th February – 29th March, 2018 to have hands-on skills and exchange of ideas during that attachment and international experience. "Ohayoo gozaimasu" (Good morning) "Ohayoo gozaimasu" (Good morning).

It was indeed a memorable experience. I was met at Nagoya International Airport by Prof. Sasaki and Mr. Waweru (A lecturer at DeKUT) and taken to my apartment. At the department, I was under the tutelage of Prof. Murakami Shigezuki, Murakami Bridge Lab. I went through hands-on skill capacity building in truss bridge design, static and dynamic analysis of truss bridge and prestressed concrete technology. Each professor was assigned at least three labs. Here, I learnt that Japan Education System emphasizes on practical and problem solving approach. Students have direct and close interaction with their lecturers. It was very inspirational. I also learnt how designs cater for earthquake, tsunami and other strong winds like typhoons, as well as infernos.

Gifu University is international hence has students from all over the world. It was fun. In our lab, I was the only black face. We were three ladies out of the ten. We visited Nishimatsu



Construction Company Limited at Kyoto dealing with tunnel construction among other sites. We also visited several bridges and footpaths. Tunnels visited included Aburazaka Tunnel and Atagi Tunnel. A visit to Nagara Bridge confirmed that with technology, the length of bridge does not matter. Design and technology applied matters.

We visited Kyoto city and admired its castles, Nagoya city at Toyota Tower (45floors), Gifu city and climbed Gifu Tower (43 floors), Takayama, and here, visited Shirakawa-go and admired its castles and snow. In these cities we visited cultural centers and shrines and rode on Shinkansen (The Bullet Train) to Nagoya (at over 320km/hr.). It was truly inter-cultural experience. We enjoyed eating sushi (raw fish, rice, sea weed), sashimi, tempura, miso soup, udon, soba and others using chopsticks. Dog meat is a reserve of the royals. I tasted and it was wow delicious. I learnt that we starve in Kenya because of our attitude rather than lack of food. We need to venture into the insects ...

I found very friendly Japanese. At meal time, in their prayer, they thank the farmer, the chef, the server, the transporter before and after eating. They eat very fast. Time is a resource in Japan never to be wasted. Food is not to be wasted too. You must eat all that you serve. These cultural bits changed my perspective to life a lot. Their love for exchange of gifts (omiyage) helps them sustain their friendship and good will. Their courtesy and kindness were outstanding. Their respect for the rule of law was another touchy issue – no hooting, no over speeding in designated areas, and every technology they make, they consider the people living with disabilities. They depend on technology 90% and a 24-hour economy. Their efficiency in every sector was a motivation to me to complete my undergraduate studies and register for MSc. Degree in Highway Technologies and improve on our efficiency.

Gifu University is international hence has students from all over the world

I am grateful to my Dean School of Engineering, Dr. Harrison Ngetha and his staff who identified me for this experience, fellow classmates, who encouraged me to take up the challenge, my parents and siblings, for their support. I am very grateful to the JASSO Scholarship organizers, Gifu fraternity, specifically Sensei (Prof) Sasaki and Sensei Murakami.

It is my prayer that this experience be mainstreamed in the training of our engineering students in Kenya. My word to those going to Japan - carry Maasai lesos and Kenyan coffee as "omiyage" (gifts) for the Japanese and "unga ya uji na ugali" for Kenyans, Ghanaians and Nigerians there.

In church we were only six, in a rented house acting as our Catholic church. Please, carry your prayer and hymn books. I recommend to all students this experience. We were challenged to start Japanese Club where Japanese language and culture is taught.

I learnt to be happy, positive, responsible, thankful, courteous and efficient (time conscious).

MY EUROPEAN EXPERIENCE

By Lorreine Muga

I am a final year student in the BSc. Mechanical Engineering class. I am also a member of IAESTE Kenya-DeKUT who attended an exchange program in Sweden. I worked at Xylem Water Solution in Sundbyberg, Stockholm during the period of March 2018-June 2018. Xylem is a company that specializes in the design and fabrication of submersible pumps. I mainly worked with the Research and Development team.

My project at Xylem entailed carrying out tests to determine the performance of new pump models at lower frequencies (lower speeds) in comparison to other competitor pumps from companies such as Grundfos and Hidrostal. The process included coming up with the most ideal method of work, carrying out the actual tests, preparation and presentation of the reports to our supervisor and other members of the team. This enabled me to use academic knowledge acquired in Fluid Mechanics and Thermodynamics as well as Communication Skills, both written and oral.

Working at Xylem provided me with the opportunity of being part of a major company and taught me the importance of working together as a team while at the same time acknowledging each person's individual efforts in achieving a company's goal.

Outside my professional environment, I was able to grow socially. Within Xylem, I met other interns from different countries such as Nigeria, Canada, Denmark and Sweden. We were able to share our different experiences; identifying both our similarities and differences. I was also able to travel to various countries such as Norway, Denmark, Germany, Poland and Italy among others. Europe is a continent quite rich in history with some of their structures dating back to the 10th century. It was amazing to see how much effort they put into preservation of their culture for future generations to see and learn from.

I would greatly recommend the IAESTE program to other students in Dedan Kimathi University. Apart from the interesting projects that one gets to be a part of, it really helps one a lot with building their social skills. I learnt more about expressing myself; whether it is to my peers or to the supervisors. Travelling to other countries provides variety of perspectives on various socio-cultural issues. I got to appreciate other countries' cultures as well as value more of my own. Another important aspect is that it debunks the myth that life in developed countries is all easy and rosy. One will not be easily swayed and convinced to sell their soul just to leave the country Kenya.



Inside the lab I worked from. L to R: Lorreine, Mats Karlen (R and D leader), Roy Emetitiri (IAESTE Nigeria), Stephan Tran (IAESTE Stockholm). Back: Anders Freden (IAESTE Sweden Coordinator)



After work activities with Xylem interns L to R: Denmark, Nigeria, Kenya, Taiwan-Canada, Sweden



Hillsong Stockholm Connect Ladies group L to R: from Uganda, Croatia, Kenya, Botswana, and Uganda

DeKUT BECOMES A DRAMA AND THEATRE HUB

By Stanley M Ngata, Drama Patron & Sports Officer



Dedan Kimathi University of Technology hosted the 7th Central & Eastern Regional Universities and Technical Institutes Drama Festival on Thursday 7th to Sunday 10th March, 2019.

The festival was opened by the host and DeKUT vice chancellor Prof. Paul N Kioni and closed by Jedidah Wambugu who represented the chairman of the Kenya National Drama Festival Prof. C J Odhiambo assisted by Prof. J Khamasi who represented the host Vice Chancellor.

The Theme of the 2019 Drama Festival was Promoting Moral Responsibility among the Youth through Theatre & Film with the Motto being Promoting Talents in Diversity

The Theme of the 2019 Drama Festival was Promoting Moral Responsibility among the Youth through Theatre & Film with the Motto being Promoting Talents in Diversity.

27 institutions took part in the festival with 13 being technical institutes and national polytechnics and the rest 14 being universities and campuses.

4 adjudicators were involved in the judging of the items on offer in the two halls being used (Freedom Hall & Old Mess).

The twenty seven institutions competed in nine (9) different categories with DeKUT taking part in seven (7) of those categories. These were: Modern Creative Dance, Spoken Word, Choral Verse, Solo Verse, Mime, Narrative, Comedy.

DeKUT represented by Ambenge Francis Odero won position 1 with 79% in the universities category and he will be representing the central region at the 60th National Drama Festival at Kibabii University in Bungoma County between 3rd & 13th April 2019.

This was just the beginning as DeKUT is going far in terms of drama and theatre.

Congrats to the 13 LOC members who did it for all of us led by the chair Mr. P Mbote (Ag. Registrar A&F).





DeKUT MAKES MUSICAL HISTORY

Dedan Kimathi University of Technology hosted the 92nd Kenya National Music Festival on Monday 6th to Thursday 16th August, 2018.

This marked the first time an institution from the central region of Kenya has hosted the Kenya National Music Festival since its inception.

The theme of the festival was Enhancing National Unity, Cohesion & Integrity.

The festival featured performances from pre-primary, primary, secondary, tertiary institutions and universities.

DeKUT as the host was represented by 109 students who performed and presented in 16 categories. Some of the items are as follows:

-African Traditional Cultural Group Dances; African Folk Song; German Solo Verse (1st at 89%); French Solo Verse (2nd at 89%); Kiswahili Choral Verse; Instrumentals: own choice of wind instrument and Five choir items including original composition of mixed voices (Naipenda Kenya) which was 3rd best with 89%.

600 genres/categories of music, dances and elocution were presented at the festival. 12 different halls were used and about 120,000 students performed at the festival.

48 adjudicators were used to judge the items at the festival with 620 buses being used to ferry the students.

Uganda and South Sudan were represented at the music festival at Dedan Kimathi University of Technology.

The festival closed its curtains with a state concert hosted by His Excellency the President of Kenya Uhuru Kenyatta at Sagana state lodge on Friday, 17th August 2018.

Kudos to the LOC chair Mr. Andrew Muriuki (former registrar A&F) and his 16 members who worked tirelessly to see the success of the festival led by DeKUT Vice Chancellor Prof. Paul N. Kioni.

DeKUT will always be proud for having hosted the music festival.

DEKUT HOSTS NEWTON UTAFITI FUNDED EARLY CAREER RESEARCHER LINKS WORKSHOP ON **STRENGTHENING INDIGENOUS LEAFY VEGETABLES RESEARCH AND INNOVATION**

Newton-Utafiti funded Researcher Links workshop on *'Improving food security and nutrition in Kenya: strengthening Indigenous Leafy Vegetables (ILV) research and innovation capacity'*, was successfully held at DeKUT on 10-13th September, 2018. The workshop was co-organized by Dr Eddy Owaga - DeKUT and Dr Jim Monaghan - Harper-Adams University (UK) and attracted 25 participants from both Kenya and UK. The main aim of the workshop was to strengthen institutional links and develop a new ILV research and innovation capacity based on cross-disciplinary information sharing, networking and partnerships with a focus on delivering improved food security and nutrition in Kenya. The specific objectives were;

- Evaluate current knowledge, skills and technological gaps in ILV value chain.
- Develop research and innovation strategies for addressing critical knowledge, skills and technology gaps in ILV value chain.
- Strengthen strategic institutional partnerships and networking for an integrated research and innovation approach for improved contribution of ILV to food security and nutrition.
- Development, dissemination and implementation of ILV advocacy, communication and social mobilization strategies.







Ph.D COMPLETION RATES WORRYING

Congratulations to our PhD graduands!! Today you join an elite club of scholars who have persevered the grueling journey to attain your qualifications. Well done! Believe me completing a PhD is no small accomplishment. It requires both high intellect and a great deal of tenacity thus attracting some of the best and brightest minds. Be proud of yourself. You made it.

People join a PhD programme for various reasons: to meet highly educated individuals' needs, for advanced learning opportunities, self-actualization, and career progression and for some, prestige. All these are worthwhile reasons. A doctoral study is very expensive, has a very high teacher-student ratio, besides individual student-supervisor consultancy. Thus each PhD student presents a massive investment in terms of time, intellectual resources and public and private resources.

It is sad however to note that the programme suffers a very high attrition rates, which occurs at various stages, making it a topic of pressing, national attention from key stakeholders. This phenomenon is not unique to Kenya. It is a worldwide concern. In America a study by Sowell, Zhang, Redd and King (2008) put the average attrition rate at 56.6%, with the following specifications: 49.3% in humanities, 54.7% in mathematics and physical sciences, 55.9% in social sciences, 62.9% in life sciences, and 63.6% in engineering.

Low completion rates result in concerns ranging from the waste of limited resources and the advancement of "domestic talent pool," to the detrimental effects on students' lives. Doctoral students make substantial investments to study some moving families, incurring big financial obligations, and surrendering substantial opportunity costs. Additionally, they make a substantial psychological investment, since doctoral study presents an incisive challenge to the ego integrity of academically-oriented individuals. Failure to complete a PhD can leave individuals with psychological and family turmoil, massive debt and forgone career potential.

A 2017 audit by the Kenyan Commission for University Education (CuE) revealed that 50% of those enrolled for Masters Programmes and 80% of those enrolled for PhD failed to complete their studies. Progression levels were a big concern where some candidates took 9 to 14 years to graduate with PhDs.

Despite the biting shortage of PhD graduates in the local universities, the country produces only 230 doctorates annually against a target of 1,000 PhDs. It is self-defeating therefore for the government to assert that only PhD scholars should be engaged at the Universities, where over 60% academics are technically not qualified to teach.

Issues affecting completion rates in Kenya

Some of the problems that might be cited include:

- The lone ranger approach, which may compound any feeling of inadequacy in the candidate.
- Low confidence that arises out of a lack of deep immersion in the process of research,
- Low ability to innovate the research method, again arising from a detachment from the essential nature of research.
- Funding: In Kenya a PhD costs about One Million Kenya shillings, making it a preserve of those well endowed financially.
- Supervision: This has multifaceted reasons ranging from over committed lecturers, poor timings, geographical locations, and many more.
- Additionally, supervisors and the academics are very demotivated and find the examination process most thankless. It is particularly critical at this time of cost-cutting measures where the institutions are feeling the pressure of underfunding from the government.
- Balancing between family, societal and the PhD studies can be daunting. Most students talk of missed graduations, weddings, sports and family gatherings. This puts undue strain and guilt on the student.
- Lack of supportive mentor relationships.

Mitigation Strategies

Different scholars and researches have opined that timely completion of a PhD dissertation can be mitigated through:

- Cohort partnerships and groups where peer to peer support is encouraged and structured. Positive peer interaction correlates with degree completion especially for women, minority students and those who have a full time job.
- Engaging doctoral advisors at faculty levels to support the students
- Structured mentorship programs.
- Reduced load for supervisors
- Timely remuneration for examiners
- Periodic workshops/colloquiums for students to allay the fear of isolation

The government needs to walk the talk and offer incentives to Universities that produce PhD graduates. In some developed countries, there is compensation to the University for each successful PhD graduate, with supervisors getting good remuneration for their work. The Kenya government needs to offer more grants for research to Universities perhaps calculated by the number of scholars.

The DeKUT is a unique institution because although public, some mitigation activities have been put in place. Our students enjoy a very healthy study environment with a committed group of scholars. Perhaps due to its young age and location the PhD students are not very many and therefore there is a low lecturer/student ratio, which has meant that our students take a fairly short time to complete their studies.

Once again, *BRAVO TO OUR GALLANT SOLDIERS!!!*

BSc. IN MEDICAL PHYSICS

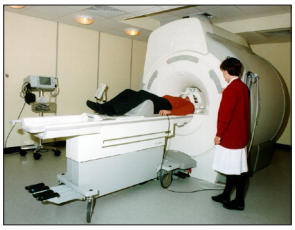
BSc. Medical physics at DeKUT is an undergraduate applied physics course which deals with applications of physics concepts, laws and methods to medical diagnosis and therapy.

What is Medical physics?

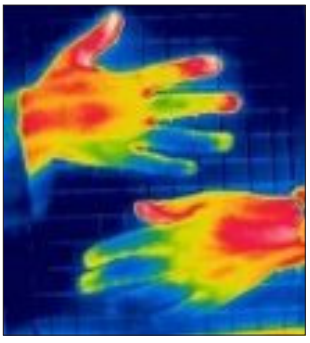
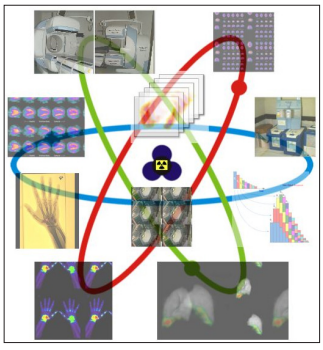
An applied branch of physics concerned with the application of the concepts and methods of physics to the diagnosis, management, and treatment of human disease. wThe main areas of application are treatment of cancer by ionizing radiation (radiation oncology), imaging with x-rays, ultrasound, and magnetic resonance imaging (diagnostic radiology), and treatment with radioisotopes (nuclear medicine), and non-ionizing radiation and protection of occupational workers in radiation related industries and the general public (health physics). Other areas of study include electroencephalography, electrocardiography, thermography and thermotherapy, hyperthermia, optical imaging, and RF and laser surgery.

What does a Medical physicist do?

Medical physicists are concerned primarily with three areas of activity: clinical service and consultation, research and development, and teaching. Medical physicist is involved in number activities in patient diagnosis and treatment. They are responsible for planning and ensuring safe and accurate treatment of patients in radiation therapy. Medical physicists use a variety of analytical, computer-aided and bioengineering techniques in their work such as radiotherapy, x-ray imaging, ultrasound, tomography, radiology, nuclear magnetic resonance imaging and lasers. They work with patients and with a wide range of medical, technical and administrative staff.





The main areas of specialization of medical physicists are:

- *Medical Imaging physics* also known as diagnostic and interventional radiology physics where a clinical physicist deals with testing, optimization, quality assurance of diagnostic radiology physics areas such as X-ray radiography, fluoroscopy, mammography, angiography and computer tomography(CT) , ultrasound and MRI (Magnetic Resonance Imaging)
- *Radiation therapeutic physics* also known as radiotherapy physics or radiation oncology physics. This is the discipline of majority of the medical physics professionals. They deal with linear accelerator systems, kilovoltage X–ray units, medical lasers, ultraviolet and photodynamic therapy as well as nuclear medicine and photomedicine
- Nuclear medicine is a branch of medicine that uses nuclear radiation to provide information about the state and the functioning of specific organs such thyroid, bones, liver and many other organs by imaging e.g. gamma cameras, and to treat their diseases using the same, e.g. cyber knife.
- Health physics also known as radiation safety and protection physics that is concerned with recognition, evaluation and control of health hazards, to permit the safe use and application of ionizing radiation in determined work places, or geographic areas on environmental context.
- Non-ionizing medical radiation physics falls under diagnostic imaging physics that include MRI, ultrasound, optical imaging that include optical microscopy, optical tomography. Sometimes medical lasers are considered under this category

Employment Opportunities

Typical employers of medical physicists include: Hospitals, Universities, Research organizations, Diagnostic or medical instrumentation manufacturers and government radiation protection agencies

Entry Criteria

(i) The candidate must have obtained a minimum of C+ (plus) in the Kenya Certificate of Secondary Education (KCSE) or its equivalent and should have a minimum grade of C+ in Physics

(ii) Holders of KNEC diploma in Medical Imaging or any related field

(iii) A holder of any other qualifications recognized by the DeKUT Senate as equivalent to (i and ii) above.

Duration of the Programme

Duration the duration of programme shall be four (4) academic years. Therefore, the minimum time allocated for a student to complete the program shall be four years while the maximum time will be eight (8) years.

SEED TO TABLE INNOVATORS (STT INNOVATORS)

Motto "Food for Nourishing Body and Mind"

STT Innovators Team came together to promote nutrient dense agriculture through organic farming of indigenous and exotic fruits, vegetables and herbs that can be incorporated into existing diets to improve nutrition and health at household level. The students aim at practically setting up a farm that will be the basis for their innovations, to promote agriculture as a prerequisite to technological development in the region. The team comprises persons enthusiastic with farming through sustainable methods that can fit in to local set up.Engaging youths to learn as they participate to promote productivity in agriculture is not just necessary, it is critical. Knowledge driven agricultural production needs to now be nurtured for local consumption and industry for agricultural transformation that is inspired through a formidable structure, strategy and systems.

Purpose: Promote functional foods with bioactive compound(s) for prevention and management of non-communicable diseases to enhance nutrition security and incomes through adding value to indigenous and exotic fruits, vegetables and herbs grown locally.

Activities

i. Cultivation of indigenous and exotic fruits, vegetables and herbs through a demonstration farm at the University farm

ii. Training on relevant stakeholders like small holder farmers on;
   - Kitchen garden establishment and management
   - Good agronomic practices
   - Business management and group dynamics
   - Marketing and postharvest handling including construction of charcoal coolers
   - Value addition to different products like food products and skin care extracts

iii. Promote home and urban gardening through mobile gardens and hydroponics, using waste materials – Community model gardens and food clubs in learning institutions

iv. Promote consumption of indigenous and exotic fruits, vegetables and herbs at household level through value addition

v. Promote conservation agriculture through organic farming by composting of kitchen/household, plant and animal waste for production of organic manure and fertilizers

vi. Initiate wholesale markets through creation of networking agents utilizing mobile technology

To measure available nutrients in indigenous and exotic fruits, vegetables and herbs, next generation graduates in Food Science and Nutrition will be encourage to develop protocols for sampling the crops at different stages of maturity, testing their nutritional profiles and product development. This will equip a new generation of top talent with the skills, competences and knowledge to become innovators and entrepreneurs in the food sector, by integrating smart agriculture into research.

THE EXCITING WORLD OF MATHEMATICS AND MATHEMATICAL MODELLING

By Dr. John Kiragu

Introducing a New Degree Program at DeKUT

What is Mathematics?

Besides being a system of numbers and calculations, mathematics is also a science that provides a framework for complex reasoning which is a necessity for effective participation in the society today. Through Mathematics, hidden patterns that help us to understand the world around us are revealed. Mathematics is incredibly important in our lives and, without realizing it, we use mathematical concepts and skills every day.

When learnt properly, mathematics nurtures qualities that include creativity, the power of reasoning, critical thinking, abstract and spatial thinking, problem-solving abilities and effective communication.

In the 21st century, mathematics and mathematical sciences forms a key factor in transportation and communication, science, engineering, technology, medicine, manufacturing, security, finance and many other fields. It plays a predominant role in our everyday life and it has become an indispensable factor for the progress of our present-day world.

On a basic level, one need mathematics to be able to

count, add, subtract, multiply and divide. These basic mathematical skills not only help in managing one's life but are also correlated with success in life. At a psychological level, exposure to mathematics helps in developing an analytic mind and assists in reasoning and better organization of ideas and accurate expression of thoughts. Analytical thinking refers to the ability to think critically about the world around us. Reasoning is our ability to think logically about a situation. Analytical and reasoning skills are important because they help us solve problems and look for solutions. At a technical level, mathematics plays an important role in improving one's skills in Technical and vocational education and training.

What is Mathematical Modelling?

A mathematical model is a representation of the real world, characterized by the use of mathematics to represent the parts of the real world that are of interest and the relationships between these parts. Such models can then be used to inform policy decisions. The use of mathematical models avoids intuition and in some cases the risk, time and cost associated with primary research. Mathematical modeling is the process involved with solving problems arising in other disciplines, or in a real-world environment. Mathematical modelling is now viewed as a branch of mathematics. Today most real-life problems can be described and solved by mathematical models. Since mathematical models can get very complex, mathematical rules are often written into computer programs, to make a computer model.

What are the some of the applications of mathematical modelling?

The use of mathematical models has gained prominence in very many areas of life. Some of the areas are:

1. Technology - all progress in technology is supported by reliance on mathematics. For example, without mathematics, there would be no CT scan. Indeed, a CT scan only gives a series of numbers, namely the quantity of energy absorbed along the different rays through the body inside a plane. Google's algorithm is an application of mathematics. Modern software's used in architectural work an application of mathematics particularly geometry, analytic geometry, linear algebra, curve/surface approximation and interpolation techniques. There are many other areas of technology that are strongly impacted by mathematics.

2. Medicine - the medical field is incorporating more & more technology as things develop and become available. Application of mathematical modeling has radically improved both drug development and hospital technology. Other applications are mathematical modeling of cardiovascular system, cancer growth and the evolution of billions of living cells. Medical research also relies heavily on studies that are governed by designed experiments and statistical analysis of results to draw conclusions.

3. Transport systems – mathematical modelling is used to model impacts on critical road infrastructure, the flow on road networks, vehicle scheduling, rotations of buses and subways, and the schedules of their crews. All planning processes in the airline industry are heavily supported by mathematical modelling and optimization methods.

4. Sports – mathematical modelling is used in statistical analysis of games, design of sports equipment, modelling and analysisof the physiological response of the body to exercise (i.e. sport biomechanics), tactical analysis of team performance (e.g. soccer), optimization strategies in endurance sports such as athletics or cycling and many others.

5. The sciences (Biology & Chemistry) - deeper insights and understanding in these fields have been assisted by rigorous application of various mathematical fields to them. Biological systems, ecology, earth/atmospheric sciences, geology, climate change medical diagnosis, human genome and so on have all benefitted from mathematical modeling.

6. Business and Economics – mathematical models are used to forecast such economic indicators as the GDP, capital investment rates, employment rates, tax revenues, financial forecasts, stock pricing, etc.

Other key areas are Data Science, Machine Learning, Artificial Intelligence, population dynamics, environment and so on.

If approached tactfully and with a positive attitude, mathematics and mathematical modelling can lead to a rewarding career capable of elevating you to high level professions.

In conclusion, living in a mathematically-driven world without knowing mathematics is like walking through an art museum with your eyes closed. Learning and appreciating mathematics can help you appreciate things that you would not otherwise notice about the world.The department of Mathematics and Physical Sciences of Dedan Kimathi University of Technology has the capacity to offer this training.

TECHNICAL AND VOCATIONAL EDUCATION

By Dr. Paul Wanyeki CoD Technology Education

The present and future of Kenya Development

The government of Kenya has committed itself towards becoming a developed economy. This is clearly demonstrated by the current policies and development blueprint.For example, vision 2030 and the Big four Agenda blueprints provide guidelines towards the attainment of a middle income country's status.

Vision 2030 is pegged on key economic projects; which aim to achieve an average economic growth rate of 10 per cent per annum, and sustaining the same until 2030. Flagship projects such as Tourism, Agriculture, Wholesale and Retail Trade and Manufacturing have become major drivers of our economy. Narrowing down to the manufacturing sector, the government has committed itself to training of competent engineers and technicians; who are able to spur development and innovation. Additionally, The Big four Agenda, directs efforts towards advancement of; food security, affordable housing, manufacturing and universal healthcare. These are the four development linchpins that the present government pledges to focus on.

Dedan Kimathi University of Technology (DeKUT) is committed to taking part in the realization of the vision 2030 and the Big four Agenda. To be able to develop the required human capital, DeKUT has established relevant Technical and Vocational courses; which are meant to fill the knowledge and the skill gaps in the country. The Technical and Vocational courses that are offered in DeKUT include; Computing, Electrical and Electronic Engineering, Civil Engineering, Mechanical engineering and Mechatronic engineering. Additionally, the university is cognizant of middle level Technical and Vocational institutions training Technicians, Crafts and Artisan personnel.

In order to equip the training institutions with skilled trainers, DeKUT has established Technical and Vocational teacher training programmes in the following fields; Bachelor of Education in Technology (Mechanical Engineering), Bachelor of Education in Technology (Civil Engineering) and Bachelor of Education in Technology (Electrical and Electronic Engineering).

The three teacher training programs are hosted in their respective department, namely, Mechanical engineering department, Civil engineering department and the Electrical and Electronic engineering department. In addition the university has established Technology Education Department that coordinates the teaching of educational units.

The DeKUT Bachelors of Education in Technology (BEd) programmes are guided by the national Technical and Vocational education and training philosophy "Education and training for the workplace" and the DeKUT pragramme philosophy "The quality of a nation depends upon the quality of its citizens. The quality of its citizens depends on a critical measure, upon the quality of their education; the quality of their education depends more than any single factor, upon the quality of their teacher."

At DeKUT, quality training has and will always be our main focus. To ensure this, the university has committed itself to making sure that all its BEd programmes are accredited by relevant quality regulationbodies includingCommission for University Education (CUE), Technical and Vocational Education and Training Authority (TVETA) and Engineers Board of Kenya (EBK). This implies that, our students are registrable by relevant bodies including but not limited to; Institute of Engineering Technologists and Technicians (IET), Kenya Engineering Technology Registration Board (KETRB) and Teachers Service Commission (TSC).

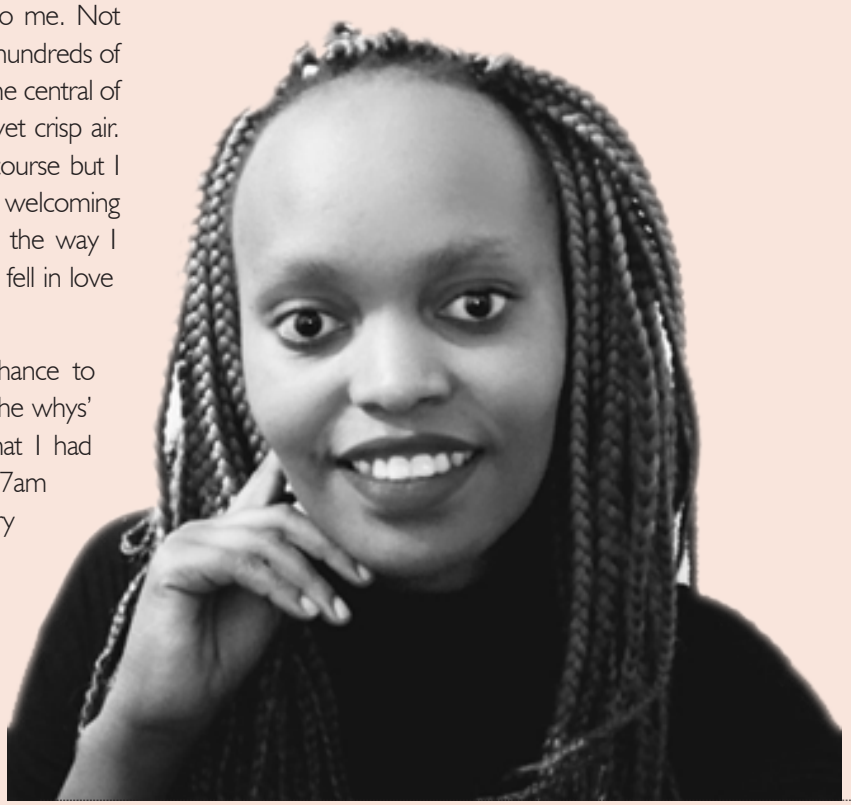
The Bachelor of Education programme is designed as a double degree programme; meaning that the university can confera trainee with two degrees within a minimum of five years. At DeKUT, BEd students attend 80% of their lectures from year one to year four together with the BSc engineering students.Concomitantly,in addition to the engineering units, the BEd students take pedagogy units to equip them with teaching skills. Afterfour years of study, our students graduate with a BEd degree in their respective specialty. After which,a student is at liberty and highly encouraged to come back and take an additional one year of engineering units. This will make the trainee legible to graduate with BSc Degree in their respective specialty. This a great advantage to the students as they will be registrable by Engineers Board of Kenya (EBK).

Enrolment to the BEd programme is usually done through the Kenya Universities and Colleges Central Placement Service (KUCCPS). Also, privately sponsored students are encouraged to pursue the programme. The minimum admission qualification for the undergraduate programme is a C+ for the Kenya Certificate of Secondary Education (KCSE) holders OR its equivalent as determined by the Kenya National Examination Council (KNEC) OR KNEC diploma and its equivalent. Also, diploma holders with a credit and above can be admitted at the second year level. Applications can be done online or by visiting the universities; as further detailed on the university website (https://www.dkut.ac.ke/).

Upon graduation, the BEd graduates will bewell prepared for the world of work. They are prepared in holistic aspects of life including; social, economic, political and technical dimensions. DeKUT equips them with enough life skills for self-reliance. In line with the governments' vision, the graduates are prepared to work in technical and vocational education and training institutions and the manufacturing industry; thus filling the human capital gaps in manufacturing and processing industries.

IT JUST NEEDS TO BE POSSIBLE

People around me know that adventure and I love each other and let's just say Kimathi gave that to me. Not only was I going to study at a school that is hundreds of miles away from home, I was going to uncover the central of Kenya; it's serene environment, that very fresh yet crisp air. With one goal in mind, to pursue Engineering course but I changed my mind. Thank God for the Fresher's welcoming weeks and the series of career talks (which by the way I attended with so much commitment), I met and fell in love with Food Bioresource studies.



To me, the vast options in the course, the chance to research, ask questions and 'uncover and solve the whys' was a fully packaged adventure aside from what I had planned in mind to do outside class! From the 7am classes that I hated to the late evening laboratory exercises, the volunteer experience I gained during my free time, the hikes and late movie nights alongside my friends, mentorship sessions and conferences attended, the networking, the last minute reading that left me questioning my priorities and all of a sudden it was over, graduation was here and it was time to do some reality checks. Like every other student out there, I struggled you see, be it procrastination, time and finances management but in the end, I fought and came out fine. Most will tell you, I always come out as a collected person, all figured out and nerdy but in reality, I accepted the challenges and fought to win. All I know for sure is IFBT-Dedan Kimathi University gave me the adventurous life I had envisioned, it made me into an all rounded person I mean really; from Physics to Genetics, Food Engineering to Biochemistry, Quality Assurance to Statistics, Micro/Macroeconomics to Microbiology not to mention the extracurricular activities I took part in, I wouldn't dare say I was not ready!

To the outgoing class, congratulations on your well-deserved success! I know it is all excitement now until you are left alone; it shall not be easy though I must warn. My advice to you all is from this quote, "It just needs to be possible!" Let fear and/ or pressure not put you down, an internship for now should be your starting point but also, apply for those dream jobs, put your best in those cover letters and resumes and start where you can, it does not always have to be the big fish, what truly matters, is your growth and experience! Keep those networks formed intact, you shall need them.

To those still in school, you have time to make amends, manage your free time well. A volunteer experience/ a part time job build your CV. I know too many, an attachment might not matter but what shall you use as your marketing tool to get hired when you have no other experience? I would not be where I'm at if it weren't for attachment and volunteer jobs.Bottom line is, what you do with your time now shall eventually count. I know that it is not easy as a student, you are trying hard to maintain the life balance and this is where you need to get your priorities set straight otherwise, you are always going to be the guy that gets carried along by the drift. Eleanor Roosevelt said, "People grow through experience if they meet life honestly and courageously. This is how character is built."

INSTITUTE OF CRIMINOLOGY, FORENSICS AND SECURITY STUDIES

By Mwai Kariuki

Located in the Nairobi Central Business District, in Pension Towers along Loita Street, is Dedan Kimathi University of Technology's Nairobi Campus under which the recently created Institute of Criminology, Forensics and Security Studies is domiciled. The history of the Institute dates back to 2015 when the Department of Criminology and Security Management was founded under the School of Business Management and Economics. Its mission was to mould competent security practitioners by stimulating a learning environment that fosters criminological, forensics and security training, research and community linkages. The department lived to its mission and registered significant growth in its programmes, short courses, student population, staff and collaborations leading to its elevation to an institute in 2018.

The Institute of Criminology, Forensics and Security Studies has a total of eight academic staff, who are specialised in the areas of criminology, security management and forensics. Among the academic staff are three PhD holders, including a visiting Professor from the Korean National Police University who is a specialist in cyber crime and digital forensics. By adopting academic exchange programmes through collaborations between Dedan Kimathi University of Technology and the Korean National Police University, the Institute and its students at bachelor's and master's degree levels have benefited immensely from Prof. Yi's expertise, knowledge and skills transfer.

Programmes

The Diploma in Security Management is designed to introduce learners to the concept of security and to impart skills necessary to respond to the evolving and contemporary security threats and challenges across the world. It also lays a foundation for career advancement for students who intend to pursue undergraduate programmes in related fields such as criminology, security management, forensics, policing, and criminal justice.

The Bachelor of Science in Criminology and Security Management is designed to prepare students to respond to the complex nature of criminological and security issues in the contemporary society by developing and adopting effective governance strategies and management policies. Students enrolled for the Bachelor's programme gain knowledge, skills and values in the areas of Security Management and Loss Prevention; Cyber crime and Digital Forensics Technology and Forensics and Criminal Investigations. During the period proceeding to the establishment of the institute of Criminology, Forensics and Security Studies, a total of 487 students have graduated with a Bachelor of Science in Criminology and Security Management degree. The graduates have the capacity to design and implement complex security designs which involve the integration of people, procedures and systems in order to protect organisational assets from ordinary and cyber criminals. They also aid in the administration of justice by employing their skills in the identification, collection, analysis and interpretation of scientific evidence involving intricate forms of crimes. Prospective areas of employment for these graduates include; private security and investigations, security departments in various industries, immigration, among other areas.

The Master of Forensics and Security Management is intended to prepare students to undertake rigorous academic research in order to advance knowledge in security and forensics, to effectively respond to the emerging security and forensic needs and to inform security governance and policy formulation. The first cohort of students enrolled in the programme is expected to graduate in April 2019.

Admissions to all programmes are open in January, May and September of each year.

Short courses offered in the Institute of Criminology, Forensics and Security Studies

It is projected that more than 50 percent of the world's workforce will require re skilling by 2030. The Economic World forum, in a report titled Closing the Skills Gap states that by the year 2020, 35 percent of skills required in various industries will change. In the last three decades, the criminal justice and security sectors have continued to experience disruptions that are aided by technological advancement and growth in internet penetration. Technologies, automation, digitisation and internet have transformed the nature of work in many industries, as well as delivery and consumption of services, which requires personnel to acquire new skills sets. Hence, in order to perform optimally, personnel in the criminal justice and security sector require re skilling and up skilling.

To facilitate re skilling and up skilling among personnel in the criminal justice and security sector, the Institute has developed various short courses that are designed to meet the current demands of the labour market. Our short courses promote work excellence, confidence among personnel and adaptability in different environments. The short courses are on offer including;

Basic ICT and Digital Forensics, Biometric systems, Surveillance/CCTV systems, Event security, and Charged Crowd Control.

For more information on these and other short courses offered at the Institute of Criminology, Forensics and Security Studies, contact our offices at Nairobi Campus.

DETECTING SMALL CHANGES IN MEDICAL IMAGES USING A FAST MACHINE LEARNING TECHNIQUE

By John Wandeto, Department of IT, DeKUT

Medical images have been used as part of non-invasive procedure to detect diagnosis and manage diseases in human. X-rays, CT scan, MRI, ultrasound, nuclear medicine imaging (e.g. PET) among others have been successful as techniques that (allow objects to be analysed and studied) assist the medical fraternity in making decisions pertaining to patient condition. A lot of research has been going on aimed at improving the role of images in the process of disease management. One of the areas of interest is the determination of the changes that take place in a patient after being diagnosed or suspected to have cancer. It is of great importance, for instance, for the doctors and the patient to regularly obtain updated status of the patient's condition, especially after being put on medication. That is, the doctors want to know whether the patient's condition is improving, remising or worsening. We address this issue here and report on recent results of a research conducted by the author here at DeKUT and at the University Of Strasbourg, France.

A new computational algorithm was designed to take in image as input and determines its status, based on variation within it. This algorithm 'learns' the image, and based on the image's current composition, the status of the image is determined. For a series of images taken on different clinical visits from the patient, the status of each image is determined and hence the changes that have occurred in the patient between the clinical visits are noted. This new technique borrows from the unsupervised machine learning technique called self organizing map (SOM). It also uses the concept of quantization error (QE), which is commonly applied in determining the accuracy attained in performance by machine learning algorithms. Hence, the new algorithm is dubbed SOM-QE.

In SOM, a data item is picked from the dataset (in this case, the image) and based on its similarity to some predetermined data and also based on its current location within the dataset, the data item is assigned a new value and position. This is repeated for all data items in the input dataset, ending up with data items with different values and at different location. When the new arrangement is compared with the original data, the QE is determined. Thus, SOM-QE value is the difference between the original values in the dataset and the new values obtained as a result of the computer 'learning' the dataset. When a series of images from a patient are run through the SOM-QE algorithm, each image is assigned the SOM-QE value which reflects the status of the patient at the time of capturing the image. Compared to visual determination of the differences between images and also to existing computational techniques, SOM-QE method returned superior results. This is because it uses the entire image directly as input, avoiding intermediary steps like image segmentation which are bound to cause data lose, besides being time consuming.

A new computational algorithm was designed to take in image as input and determines its status, based on variation within it

It is common for radiologists/surgeons to schedule longer revisit intervals (period between two consecutive clinical visits of a patient to the hospital) for their patient. This is to allow for sufficient time for noticeable changes to occur in the patient. In return, the changes captured guide the doctors on the performance of their prescribed medication and assist in making decision on whether the same should continue, or some alternative need to be adapted. But taking too long may have detrimental consequences to the patient. If for instance, the patient's condition is deteriorating, then he will have worsened as he waits for the next scheduled clinical visit.

SOM-QE is capable of detecting small changes between images, and can reduce the need to have prolonged periods between a patient's clinical visits. This in return, will ensure improved patient's condition management and increases the chances of healing.

Experiments showed that human and other existing computational techniques, could not detect small changes – typically, when a tumour increases/decreases by 5% or less. SOM-QE easily detected such changes and did this within a short time, making it suitable for application within a clinical setup.

For detailed information, see the open source article by this author published by Elsevier publishers at: https://www.sciencedirect.com/science/article/pii/S2352914817300059

THE BENEFITS OF STUDENTS WELFARE **TO THE STUDENTS AND SOCIETY**



By Jackson Otieno

I was born in Small center, Kaptembwo on 31stDecember 1995.

I am the eighth born and our family comprises of four brothers and two sisters alive. The two towns where I have resided most of my life are Nakuru Town and Nyeri town. Different events in my live have directed this path depending on the circumstances I found myself in. Kaptembwo is a small center with a large population of over 3000 residents. I grew up in Kaptembwo Center in a family where my mother who was the sole-breadwinner, was susceptible to layoffs every year.

I quickly learned about the powers of an employer and a union's visions. Unemployment insurance, as it was called back then, was a subject of discussion over many dinners. This way of life, caused a great deal of stress for the family. I remember my mother limiting certain foods or extras such as outings to make ends meet. It happened that my mother was dismissed and she had to start a business of selling illegal liquor. The business was not well with her until the day she was harassed thoroughly by the policemen who were patrolling the place.She later had to start a hotel which was used to meet the end of our needs.

Later I joined a school which was meant for street children called St. Francis where I learnt until class three and later on joined Kibowen Komen (Rhonda Primary School).

In Rhonda primary,I tried my best whereby I managed to be the best and I ended getting a sponsorship at St. Gabriel's Mission Primary school.The owner of St. Gabriel's together with teachers helped me until I managed to complete both primary and secondary through a financial and spiritual assistance.

Being brought up by a single mother, who is now deceased, was difficult since she had a lot of difficulties in terms of finances, but through the grace of Almighty Godwho helped me and I managed to join Dedan Kimathi University of Technology where I completed my degree in BSc. Industrial Chemistry on 17th December, 2018.

Thanks Note

I would like to express my appreciation to the student welfare in Kimathi University of Technology. It is paramount to thank everyone who helped me in my career or any other important research I was doing.

I would like to thank all the Kimathi University family working in the welfare department which concerns students. Youall worked very hard in order to help all students who are in need in terms of advice and financial support. Ibelieve the organization does an amazing job. I know how challenging it is when one is needy and how he/she can struggle in order to meet the day-day economic factors.

I would also like to thank all comrades in Kimathi University and the entire earth in general to know each and every thing that I have benefited from DEDANKIMATHI UNIVERSITY STUDENT WELFARE.

They include the following;

i. Financial Support

This through providing a suitable place for me to live since I was in a situation where only God knew.at that my mother who was single parent and also a sole bread winner had passed away and I just found the world hard torn apart and now I had to be swallowed. This enabled my life in the campus to run smooth.

ii. Benevolent Fund

This is an amount of money the school provide to any student who belongs to Kimathi University legally and it is due to the demise of the parent hence the amount worth ten thousands shillings is given to him or her. This amount I received the moment my parent died and hence my school fees was paid through i.e. had a late registration at that moment but the amount at the end enabled me to pay the school fees which was 60% at that moment. This amount enables one financially and can ensure the mutual relationship between person who has lost the parent and the institution i.e. it ensures sorrow for the loss.

CONTINUED ON PAGE 29

QUALITY MANAGEMENT SYSTEM ISO 9001:2015 CERTIFICATION

Dedan Kimathi University of Technology started the rigorous process of transitioning to the standard ISO 9001:2015 in August 2017. This involved the appointment of a committee to coordinate the process. The new standard is referred commonly as High Level Structure (HLS) which means that the University will seamlessly implement other standards in the family of 9001 series like Environmental Management System(EMS),Information Security Management System ISO/IEC27001:2013, Occupational Safety and Health Act(OSHA).

In July 2018, the university carried out its 1st Internal Quality Audits in preparation for certification audits by SGS (K) Ltd. The newly trained auditors did a process audit on the core activities of the university which are admission, registration, timetabling, teaching, examination and graduation. This was to assure that the systems in place meet the highest national and international standards and requirements. The internal audits were followed by a Management Review Meeting (MRM) chaired by the vice-chancellor in October 2018. This was to review the findings of the internal audits and effectively address any non-conformity raised. The meeting was also the final preparation stage for the certification audits.The certification audits were carried out in December 2018 and the thorough process took 2 days of documentation audit and 3 days of process based audit.

The objectives of this audit were, Ability of the University to ensure applicable statutory, regulatory and contractual requirements are met; Effectiveness to ensure the client can reasonably expect to achieve specified objectives; and Ability to identify as applicable areas for potential improvement.

The audit by SGS (K) Ltd concluded that the Dedan Kimathi University of technology has established and maintained its management system in line with the requirements of the standard (ISO 9001:2015) and demonstrated the ability of the system to systematically achieve agreed requirements for products or services within the scope and the organization's policy and objectives. The University was therefore recommended for certification.

The recommendation for certification means that the university has put in a place an effective system that is continually capable of meeting its customers and stakeholders requirements. It also means that the university is able to identify risks and either prevent or mitigate against them for continual improvement and innovation in meeting the stringent quality standards in higher education.

In conclusion, the university is at an advanced stage in implementing the information management system ISO/IEC 27001:2013. The standard will ensure the safety, confidentiality, availability and integrity of the University's information assets. The process will be concluded by June 2019. "It is quality rather than quantity that matters"-Seneca

CONTINUED FROM PAGE 28

iii. Parental Advice And Counselling From Counsellor

The student welfare counsellor has ensured that I remained strong all through even after losing my only parent. I thank Pastor Githae who has acted as a main pillar for advising me in hard times. The office also gave support on how to ensure the best performance. This has enabled me to maintain my grades up to date and I give my thanks to Almighty God for bringing him to Kimathi University.

iv. Accomodation

The office has ensured that I got a free accommodation in the Sunrise Hostels when I was in a situation which was very difficult. The hostel I thank them for providing humble time for me to continue with my studies smoothly and maintaining my grades. The hostel has also taught me how to live with many people as a family and importance of assisting each and every student who is in need.

Special thanks to Keziah in sunrise for ensure that I did sleep hungry and she also ensured that my phone had a credit card for calling people who can benefit me in my life.

v. Work-Study

The welfare has also provided students with a work-study which has ensured that needy students can pay their school fees through it. The amount can also be given to students in cash in case they need. I have been through work study for two semesters and the amount has enabled me to clear my school fees balance. This amount obtain the work is enough and a student is allowed to do for a maximum of four hours per day and this ensure the student continues with his or her studies effectively.

vi. Shopping And Personal Items

The school has enabled I eat and drink every meal in each and every day at school. This is through Kamiah a manager in Sunrise Hostels. She always buys items suitable for cooking and hence this ensures my minds to relax. I can now feel that my parents re around and hence I can feel loving

Conclusion

In all the above and more others, I would like to thank people working in the KIMATHI UNIVERSITY. You are all working very hard until now. I would to request you to continue with that angel's heart. Iwould like you to continue working with such determination and great sincerity in the service of better teachings and sentient beings.

CHEMISTRY DEPARTMENT CONTINUES **TO MAKE SIGNIFICANT PROGRESS**

By Dr. Paul Tanui, Chairman- Chemistry Department

Chemistry Department offers three unique courses; Industrial Chemistry, Leather Technology and Polymer Chemistry. The polymer chemistry is a bachelor's degree and the first cohort will be joining in May 2019. Leather Technology is a course of its own kind. The course is fully accredited by Commission of University Education and is offered at three different levels; Masters, Bachelors, and Diploma. In May 2018, our department was honored to receive the first cohort of students pursuing Diploma in Leather Technology. This was a moment of pride for us as a key accomplishment towards fulfilling the potentiality of the leather industry which has not been fully exploited in the country. Some of our diploma



Diploma students developing the patterns for shoe design



Jubilant display of finished leather products

students have been sponsored by Ndaragwa Constituency in Nyandarua County. Currently, other counties have developed interest in Leather Technology seeking to sponsor their youths to spur growth in the sector while addressing the issue of unemployment. Our students are equipped with skills in processing raw hides and skinsinto leather. They have been able to design and manufacture various leather products such as wallets, belts, bags and shoes.

Today as we graduate the third cohort of BSc in Leather Technology, we are proud to give back to the society a team of competent and skilled workforce. Our training majorly involves value addition to raw hides/skins which are processed to leather. More value is added to the leather produced by manufacturing a wide range of leather goods and footwear.

Leather Technology is one of the sectors that make the country realize its potential towards achieving its vision 2030 and beyond dream. To enhance more growth and development to our nation, the president launched the big four agendas. As part of fulfilling the big agendas, manufacturing has been made a priority in our curriculum through designing and manufacture of various leather products including shoes, belts, wallets, handbags etc.

Mr. Eric WaithakaNjau, a 2017 graduate of this university is currently working with Bata Shoe Company as a shoe designer. Eric went ahead and started his own company called Just Shoes and More Ltd and has ventured into business of making fancy and executive shoes.

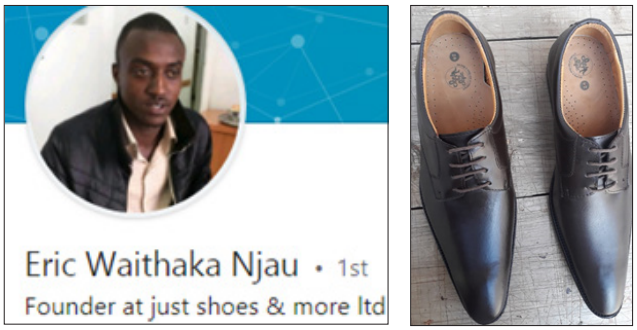
This is a proof that our department is a center of excellence and competence in training of Leather Technology.

Masters in Leather Technology Programme

There are 8 vibrant students at master's level who are done with their second year of study and some have finished their research. The students have made various publications in their respective area of research and presented their manuscript in an international conference. The research are majored on value addition, environment pollution control and quality assessment. Some of the outstanding research is processing and manufacturing of various leathers and leather products from matumbo (animal stomach), fish skin and rabbit skins. Notably, one MSc student has made remarkable contribution in value addition of wastes from leather industry in converting 'matumbo' rejects into leather goods.

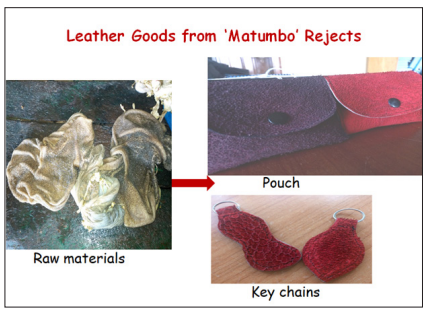
Another MSc student is undertaking research touching on the blue economy. He is currently exploring the use of fish skin in leather products. This work also comes a long way in curbing environmental pollution and value addition to fish skins regarded as waste in fish industry.

Today, we are elated to graduate our first cohort in Msc Leather Technology. Congratulations!



Leather shoes made by Eric Waithaka at his shop

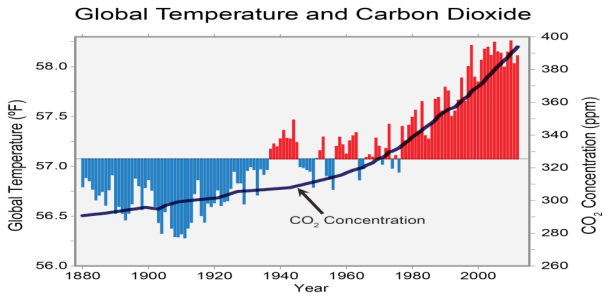




Oil-tanned 'matumbo' leather product; Tanning using oil from fleshing waste

MITIGATING CLIMATE CHANGE **THROUGH HOTEL DECARBONISATION MANAGEMENT**

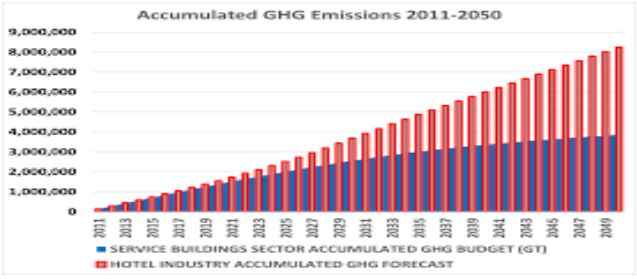
Climate change is a global problem affecting humanity across the globe. It is not only an environmental issue but has cemented itself as both an economic, political and security issue that is routinely on the agenda of the G8 and even the UN Security Council. Climate change is however not a new phenomenon. Human activities, particularly carbon emissions are the main culprits driving climate change (as highlighted in the graph below).



Source: IPCC: Graph showing global temperature and atmospheric carbon concentration nexus.

The hotel sector is a service industry that undertakes activities that produce carbon and therefore a significant contributor to

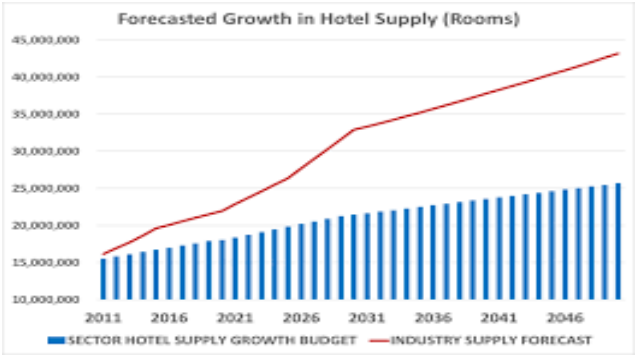
Climate change. The figure below shows the projected GH6 emissions for the6 period 2011 - 2050



Source: International Tourism Partnership (ITP) - Hotel Global Decarbonisation Report - November 2017

From the ITP report it can be deduced that global carbon emission from the hotel industry have been increasing since 2011 and are projected to continue increasing in the next two decades. This implies that the hotel industry will continue to be a key contributor to global warming.

According to the World Tourism Organisation (UNWTO), the hotel sector accounts for about 1% of global carbon emissions. Though this number is small, the forecasted growth in the sector as indicated in the figure below means that the sector will increase its negative environmental impacts if it does not start to measure and reduce its carbon emissions increase to avert catastrophic effects of climate change.



Source: International Tourism Partnership - Hotel Global Decarbonisation Report - November 2017

It is generally agreeable to a majority of scientists that the acceptable limit of global temperature rise is an average of no more than 2 degrees above the average temperatures achieved before the industrial revolution. This 2-degree increment scenario ought to be the maximum possible growth yet temperatures are currently 60% higher than they were in 1990.

Despite commitments from governments and the business sector to reduce carbon output, in real terms emissions have continued to increase.

However there has been a push towards sustainability in the hotel sector. However, while the hotel industry is slowly beginning to standardise what it means to be an eco-hotel, there are currently no proper regulations in place to prevent the industry from using terms like "eco-hotel", "green hotel" and "sustainable hotel" to affix to their names without meaningful adoption of the standards. Many hotels therefore use these names merely to attract customers but in reality they have not incorporated true sustainability measures within their premises. The majority of hotel proprietors interpret the term eco-hotel loosely. Some preach environmental friendly practices that the hotels do not actually practice. Others call their properties eco-hotels based solely on the location of the hotel, such as being in a jungle. This superficial view of sustainability has created many single hotel units that embellish their websites with sustainability messages and yet in practice they do not have significant sustainability initiatives in place.

Is there hope?

YES, The Paris Climate Agreement, a global accord to pursue

this scenario has pushed nations and businesses to make commitments in reducing their greenhouse gas emissions. The hotel sector therefore has an obligation to account for and reduce its negative climate impact.

Are there opportunities for reducing the hotels carbon footprint?

The answer to this question was addressed by the International Tourism Partnership (ITP) in their 2017 report on Hotel Global Decarbonisation, ITP proposed technical approaches to reduce carbon emission to be implemented by all hotel sector players globally. The suggestions are that hotels need to be:

a) More efficient: pursuing the highest and most innovative levels of efficient technology, furniture, fittings and equipment (FF&E), and best practice operations; designing highly efficient buildings, engaging guests to be more efficient, and optimising the best solutions for carbon reduction through efficiency pathways.

b) More renewable: producing and sourcing more renewable energy directly on-site at properties, procuring energy from partners in innovative agreements, and supporting the acceleration of power grids toward renewables and away from fossil fuels.

c) More electrified: supporting the transition to electrification of equipment, and building an infrastructure to generate, store, and distribute electricity across a network.

d) Hotels are encouraged to use the Hotel Foot printing Tool that was developed by the International Tourism Partnership (ITP). This tool enables hotels to get an overview of their carbon emissions in order to identify areas of improvement.

COFFEE HARVESTING COMPETITION

Dedan Kimathi University farm traces its origin to the colonial era when the first coffee plantations were established specifically for the export market. This was around 1919. In the 1950s, Nyeri Plantations was established as a limited company which was then purchased by the then Kimathi Institute of Technology and later taken over by Dedan Kimathi University of Technology in 2012 after the award of full university charter.

The farm underwent a significant rehabilitation program from 2013 which involved the replacement of the old SL 28 varieties with new higher yielding varieties. Currently coffee bushes occupy 293 acres of land with 179,650 trees of trees at different stages of growth. The major varieties include Batian, Ruiru 11, grafted Ruiru 11 and selected blocks of SL 28. Batian, a true breeding variety is the most preferred variety in the farm for its excellent characteristics which include strong deep roots that extends deep into the root zone, tolerant to leaf rust and coffee berry disease and its high yield compared to the other varieties (https://afca.coffee/highlights-of-batian/). Batian also comes into production within two years, much earlier than other varieties and produces big beans with excellent cupping qualities hence a good variety for specialty coffee.Moreover, this is a variety that is suitable for most coffee agro-ecological zones.

The university manages a nursery for these varieties and provides healthy seedlings to the neighboring farmers and clients from other regions in the country. In addition, we have a comprehensive program on nursery management and general coffee agronomy.



Mr. David Muchiri (Conservancy Coordinator) critically examining the quality of beans

The coffee harvesting season runs from early May to late November with the peak harvesting occurring in October. The farm has initiated a program of Harvest Competition mainly targeting members of staff and especially the students of DeKUT. The main objective of this competition is to give students and staff members the opportunity to understand the process of coffee harvesting and appreciate the effort it takes to produce a cup of quality brewed coffee. Future competitions will involve brief educative exercises on the whole value chain of coffee including agronomy, post-harvest practices and processing.

Our last years' competition which was the inaugural competition experienced an overwhelming interest from

many staff members and students. The competitors were judged by a panel of experienced judgesbased on the number of 'debes' harvested with each participant receiving renumeration per debe. The judges used approved coffee industry standard debe measuring approximately 16kg. The most outstanding competitors among the students included Josephine Kavuu (ItoHM), Duncan Opere (IFBT), Michael Divisi (Actuarial Science), Hellen Ndunge (Industrial Chemistry) and Agnes Bibi (Mechanical Engineering). The Procurement Department emerged as the champion among the staff category. Other departments that actively participated are as shown below:

Department/School	No. Students	No. of Debes	Kg harvested
Electrical Engineering	1	3	48
BBIT	1	4.5	72
IT	2	7.5	120
Actuarial Science	3	12.5	200
IFBT	3	14	224
Business Administration	3	14.5	232
BCOM	4	16.5	264
Mechanical Engineering	7	21	336
Industrial Chemistry	6	21.5	344
Procurement	14	48.5	776
ItoHM	23	73.5	1,176

Other than participating for individual monetary rewards, there were others who participated in support of noble causes. Notable among these was a group representing DeKUT Youth Christian Association of ACK church in Nyeri. This group led by Mr. Fred Basara harvested 496kg of cherries.

This year's competition planning has already commenced and we expect a larger number of participants. Those interested in participating can contact the Ag. Farm Manager at peter.mwirigi@dkut.ac.ke



A group of students happily exchanging pleasantries during the competition

SUCCESS STORY OF **MAINA KAMAU KABOCHI, C026-0396/2007**

I wish to appreciate the Directorate of Students Welfare for providing a caring and supportive learning environment that enabled me successfully complete my degree in Computer Science

My name is Maina Kamau Kabochi. I joined Dedan Kimathi University of Technology (DeKUT) in 2008. I have been in and out of rehabilitation centers more than once; my guardians came to the University many times. I was born in Murang'a District in a family of 6 sisters and 3 brothers. My parents were small scale farmers, unfortunately my father died when I was still young.

I joined school at the age of 5 years and since I was bright, I skipped class four. In the year 2000, I sat for my Kenya Certificate of Primary Education (KCPE) and scored 500 out of 700 marks. I was selected to join Murang'a High School but due to fees challenges, I was forced to join Mananga Secondary School, a nearby day school. I sat for my Kenya Certificate of Secondary Education (KCSE) in 2004 and got B- (Minus). Upon repeating, I got A- (Minus) and was admitted at Masinde Muliro University in 2007. Due to the 2007/2008 post-election violence (PEV), I requested for an inter-university transfer to DeKUT in 2008 .Unfortunately, due to fees challenges, i took study leave after one year and that marked the beginning of my problems.

I sought for some manual jobs and due to peer pressure I was exposed to alcohol and other drug-related issues. I later returned to the University in 2010 to continue with my second year but due to addiction, I lacked purposefulness, experienced low self esteem and developed some mental illness. I sought help at the Counseling Department where I was referred to the University Medical Centre. The medical doctor then referred him for further treatment. The University by provided transport to my home since by then i was seriously sick. I was treated at home after which i went back to casual employment.

In 2012, I was readmitted to continue with my studies. But in later in the year i fell sick and applied for leave on medical grounds. I joined back in 2013 for my third year. In 2014 I applied leave on financial grounds; i worked in a cyber for a few months and raised money to pay for my fees. I resumed back in 2015 for my second semester of the third year In 2016, I had no money to pay for hostel, I tried spending nights at the Students' Centre but the Dean of Students was informed by the security personnel. The Dean invited my parent to come to the University and assigned our class representative and one of the Students' Counselors for follow up. I committed my life to Christ, stopped taking drugs and joined the Christian Union (CU).

The Directorate of Students' welfare helped me in the following ways:

i. Provided individual /spiritual counseling me

ii. Family counseling to my family.

iii. Gave me a chance to benefit from the work-study program.

iv. Allocated me internal accommodation.

v. Soliciting for financial assistance from well wishers such as Orange Company (now Telkom Kenya) who gave me a laptop, phone and paid my fees. Employees of Telkom Kenya also provided upkeep resources for the student.

vi. Material assistance from members of Directorate.

I sincerely wish to thank the Almighty God who gave me good brains and a chance to join DeKUT. Thank you the management of the University led by the Vice Chancellor; Professor Kioni, the former Dean of Students; Mr. Kaimoe, Counseling Department, ICT department for support that you give to me and all other needy students. Finally but not least I wish to appreciate Mama John who accompanied my loving mum every time they had to come to the University.



Graduation photo with family and Counselor Waithera



Orange staff presenting the lap top

DEKUT SUCCESSFULLY HELD ITS **4TH INTERNATIONAL CONFERENCE**



Kenya is rated as the third most innovative county in Africa after South Africa and Mauritania as pointed out by the Chief Innovation Engineer, KENGEN, Mr. James Kahutu (2018). This promising message was received when DeKUT held its 4th International Conference from 7th to 9th November 2018 at the main Campus. The Vice Chancellor, Prof Kioni, welcomed all delegates to the fourth annual DeKUT international conference on Science Technology and Entrepreneurship. The conference was honored by key guests and participants who included Prof Keya, Deputy Director - Research Regulatory Authority Mr. Mutua, Prof. Michael Herzog from Technical University of Applied Sciences (Wildau), Prof. Sasaki and Prof. Nitta both from Gifu University as well as delegation from KENGEN - among other participants. The conference provided researchers with a forum to discuss and share ideas on latest innovations and research outputs that address local and global challenges. The presentations covered thirteen broad areas of research which were all relevant in finding solutions for Kenyan emerging issues. The aim of the conference was to address the sustainable SDGs goals, the Vision 2030 and the big four Government Agenda.



The conference drew its delegates from Kenya and from overseas. Several International delegates came from countries such as Germany, Japan, Nigeria, Uganda and South Africa. The conference attracted seventy (70) delegates who were affiliated to more than twenty (20) institutions of research and higher learning. More than one hundred (100) DeKUT staff and students participated during the conference. The Conference sub themes for the year 2018 were:

i) Basic and Applied Sciences for Advancement of Research and Innovations;

ii) Business Management and Entrepreneurship for Sustainable Development;

iii) Engineering Technologies and Innovations for Industrialization;

iv) Health Sciences and Community Development;

v) Information and Communication Technology for Development;

vi) Innovative Agricultural Sciences and Technologies for Sustainable Food Production and Food Security;

vii) Trends in Technical Education and Training;

viii) Water, Energy, GIS and Remote Sensing, Environment, and Climate Change.

Various speakers provided insights into Africa's growing spirit of entrepreneurialism and sustainable 21 century learning initiatives. It was clear that many African countries still face many challenges as they try to reach the Millennium Development Goals and build an inclusive knowledge society. The conference created a coalition of intellectuals that provided potential solutions on major themes relevant to SDG implementation in education and research. It is worth noting that the 2019 STI&E Conference is scheduled to take place in early November 2019.

DEKUT IMPRESS SHOW GOERS DURING THE 2018 CENTRAL KENYA SHOW

During the year 2018, the University participated in Central Kenya ASK Show from 11th to 15th September 2018 at Kabiruini showground. DeKUT joined other exhibitors in promoting transfer of technology including innovations & research output in support of agriculture, trade and allied sectors. The Theme of the show was "Promoting Innovation and technology in Agriculture and Trade." The chief guest for the year 2018 was the Cabinet Secretary - Ministry of Agriculture, Livestock, Fisheries and Irrigation, Hon. Mwangi Kiunjuri and was accompanied by the Deputy Governor of Nyeri County Dr. Carol Karugu. The Vice Chancellor led the CS and other dignitaries through the University stand giving insights about the different projects exhibited. The Chief Guest was impressed by the projects and gave Ksh.50,000 cash award to DeKUT students' exhibitors. DeKUT stand was a crowd puller which attracted large numbers of distinguished guests and members of the public. The University community shared their knowledge, skills and innovations output which supported transformation of agriculture into a rewarding, competitive and sustainable enterprise.

The Show provided a unique opportunity of exchanging knowledge and experiences on the latest developments in agriculture, trade and allied sectors. DeKUT participated in various trade classes and won the following prizes:





1st Prize - Best Stand in Research and Development

2nd Prize - Best University stand

3rd Prize - The stand that best interprets Current Show theme (Education and/or Research)

TRANSLATING RESEARCH INTO INNOVATIONS FOR COMMERCIALIZATION **THROUGH DEDAN KIMATHI SCIENCE AND TECHNOLOGY PARK**

Will you be Part of the Transformation?

In pursuit of transforming Kenya into a knowledge economy, the Ministry of Education, State Department of University Education is supporting the establishment of a Science and Technology Park at Dedan Kimathi University of Technology. Dedan Kimathi Science and Technology Park (DeST-Park) is anchored on the Ministry of Education, Science and Technology's vision, which is to promote science, technology and innovation and quality higher education for prosperity and global competitiveness.

In addition, DeST-Park is based on the need for the country to drive development towards a knowledge-based economy as envisioned in the Kenya Vision 2030. The Vision proposes intensified application of science, technology and innovation to raise productivity and efficiency levels across three pillars recognized as critical for development. Through its recognition of the critical role played by research and development (R&D) in accelerating economic development in all the newly industrializing countries of the world, the government seeks to devote more resources to scientific research, technical capabilities of the workforce, and in raising the quality of teaching mathematics, science and technology in schools, polytechnics and Universities. The Science and Technology Park has the following thematic areas:



The proposed hotel



The proposed conference facility

i. **Bio resources Value Addition:** Coffee, Natural Products; Bioprospecting; GIS; conservation; (The facilities to be strong on food safety)

ii. **ICT:** Big data and data science; Environment, Conservation and Tourism; spatial science; smart government

iii. **Design, Manufacturing and materials:** Electronics manufacturing units, and Mechatronics devices-drones, industrial robots; biomedical materials and devices; industrial management; material science and engineering; spatial applications, Leather and leather products and Industrial Chemistry, dyes; medicines

The STP at DeKUT seeks to provide value to start-ups, existing businesses, research institutes, government and investors by:

- Providing an all-inclusive supporting infrastructure to assist businesses set-up, innovate and grow.
- Making available comprehensive services including high-speed broadband telecommunication, 24 hour security
- Creating opportunities to commercialize research outputs through technology transfer from universities and research institutes.
- Enabling networking and collaboration through well-structured processes and networks between suitable partners for innovation
- Facilitating access to specialized personnel (e.g. already

started with IGGReS) and universities knowledge-base including faculty and research equipment

- Providing opportunities to bring related government services closer to the community
- Creating investment opportunities for developers to realize significant return

The Directorate's commitment is to encourage cooperation and synergy between universities, research institutions, and the private sector and create a favorable environment for innovation, renovation and training. Therefore, the purpose of DeST-Park is to create high-tech clusters that serve as catalysts to technology development, economic transformation, and wealth creation with a link to university knowledge generation.

One hundred and seventy seven (177) acres of land were identified and set aside for establishment of DeST-Park. Two anchor clients under Design, Materials and Manufacturing are already in place. Horizontal infrastructures including a road network, water and power supply are already in place. Necessary approvals have been sought and construction will start soon.



Signing of the lease agreement by one of the anchor clients



The DMM (Design, Materials and Manufacturing) hub

VISIT TO TH KOLN



Waste management at Metabolon Landfill site

A team of 7 members from our university visited Technische Hochschule (TH) Köln, Cologne Germany in January, 2019 for the program "Learning by Co-Design – Teaching is Research". The team constituted of 2 administrative staff, Prof. Khamasi and Prof. Muchiri, and 5 scientific staff, Prof. Karuri, Dr. Ngetha, Dr. Mburu, Dr. Bosco and Mr. Tanui.

TH Köln – University of Applied Sciences – is a university of Technology, Arts and Sciences located in the city of Cologne. TH Köln has five campuses, namely, Campus Koln-Sudstadt, Stadort Koln-Mulheim, Campus Koln-Deutz, Campus Gummersbach and Campus Leverkusen. It has approximately 25,000 students, which makes it the largest of its kind in Germany. It offers more than 90 Bachelor's and Master's programs. These programs are distributed in the following field:



Staff members from school of engineering while at TH Köln, Cologne, Germany



Figure 2: Gas storage in Metabolon Landfill Site

- Humanities programs in the field of economics and business administration, social sciences, design and restoration, languages and communication.
- Engineering and technological programs encompassing the field of architecture, civil engineering, electrical engineering and media technology, automotive engineering, mechanical engineering and computer science.
- International program in the field of design, intercultural communication, business administration (MBA), automation and IT and technology in the tropics.
- A language center with preparatory German classes and other language classes.

The team attended sessions on workshop, teaching, learning, testing at TH Köln, curriculum development at TH Köln, entrepreneurship at TH Köln and mentorship programs with individual TH Köln professors. In addition, the team also had a chance for site visits to Campus Gummersbach and Metabolon landfill site.

TH Kölnoffers excellent practice-based research and teaching curriculum. The university has a curriculum development department whose work is to guide development of new curriculum and offers pedagogy training to new professors. Professors are required to have practical/industrial experiences before they are recruited. After employment they undergo one-year mentorship program where they are coach on teaching and research methods. The university also emphasizes entrepreneurship culture on their students. They encourage and support start-ups and other projects by students.

TH Köln research activities are strongly linked to industry. Masters' and Bachelor's theses are mostly based on industrial problems. For example, Metabolon landfill is a multidisciplinary project for TH Köln and other German universities. In this project, there is research on solid waste management, electricity generation, biomass hydrothermal conversion, landfill gas generation, amongst others.

According to Mr. Tanui, TH Köln has very good laboratory equipment and facilities in the field of Fluid Mechanics Engineering. These facilities are useful for research in computational fluid dynamics, aerodynamics (wind tunnel experiments) and two-phase flows. Mr. Tanui was mentored by Prof. Ziller who is an expert in Fluid Mechanics.

SCHOOL OF HEALTH **SCIENCES COMMUNITY ENGAGEMENT**

The Dedan Kimathi University of Technology School of Health Sciences has robust engagements with surrounding population and beyond. Varied activities that the school has partaken include; school health education and mentorship program for primary and high schools in the region, support of children home, maternal-infant health enhancement program in Nyeri and Migori Counties, community health needs evaluation(community diagnosis) in diverse locations in Nyeri County among others.

As the premier school of health sciences at university level in the County, we continue to play a pivotal role in training quality graduates able to fit in various work areas in health; clinical, teaching, research and even community work.

We describe one of the recent community engagements; a community health assessment at Kaiyaba village, Ngandu Sub-location, Kirimukuyu location, Mathira west sub -county in Nyeri county.



Community Diagnosis

It is a quantitative and qualitative description of the health of citizens of a given communityand the factors which influence their health. It identifies problems, proposes areas for improvement and stimulates action.

Community diagnosis is a comprehensive assessment of health status of the community in relation to itssocio-economic, physical, geographic and biological environment.

Goal

Identification of the health problems and needs of the community and to plan, implement and evaluate interventions.

The purpose of community diagnosis is to define existing problems, determine available resources and set priorities for planning, implementing and evaluating health action, by and for the community. It involves provision of health care at the community level with their full participation.

Community Diagnosis at Kaiyaba Village

The Dedan Kimathi University of Technology third year Bsc. Nursing students carried out a community diagnosis on 6th March 2019.

The study area was at Kaiyaba village which is a rural settlement located in Ngandu Sub-location Kirimukuyu location, Mathira west sub -county in Nyeri county.The village has an approximatepopulation of four hundred and fifty six (456) households with one thousand three hundred and sixty (1360) people as at 2017.The main economic activities in the village are farming and animal keeping.

The objectives of this community diagnosis included assessment of the social demographiccharacteristics of the village, sanitation and hygiene, health status and health seeking behavior and the access tohealth service delivery in the village.

A total of one hundred and thirty five (135) households were assessed with assistance of village elders and the sub-chief and the students were able to fill in one hundred and thirty five (135) questionnaires.

The students are in the process of analyzing the collected data, from which they will be expected to come up with a report which will identify the health problems and needs of the community and come up with interventions to address them. Dissemination of the findings will be presented to the community through a chief's Baraza where free medical camp will be held to address the health issues.

The chief of the location requested for training on first aid for community health workers in the area. Through our skilled clinical instructors, a session was held on Friday, 22nd March 2019. Necessary equipment were readily availlable from our modern skills laboratory. Some of the skills tackled included cardio-pulmonary resuscitation (CPR), chocking, near drowning, poisoning, control of bleeding, Blood pressure and blood sugar monitoring.

First Aid session at Kaiyaba as shown below:

DEKUT MY UNIVERSITY OF CHOICE

Dedan Kimathi University of Technology (DeKUT) has been my home throughout my period of study. Yes, I said home because that is how being at DeKUT felt



Gitei Antony, Graduand, B. Sc. Electrical and Electronics Engineering.

It's in this great Gem in Nyeri County that I made my life better, made new friendships and discovered my strengths and skills. I am proud of this University because of, among other things, two great things:

The first is being pushed out of my comfort zone. Through my life in the University I have accomplished great milestones that initially I thought would be difficult to achieve. One of the example being in my 4th year of study where I was appointed as a CEO managing a Sports for Development Organisation named Transforming Young Stars of Africa (TYSA) which impacts directly more than 30,000 young people yearly. In the organization one of my role required me to travel out of the country. Sometimes my travel would coincide with my exam periods and I would be forced to study on a plane and while on transit in the Airport lounge. The most recent being my 5th year end of semester exam where I undertook it barely 6 hours after my landing in the country. This kind of dedication and zeal has been cultivated here at DeKUT.

The second reason being the University gave me an opportunity to fly my wings. I am graduating as an Electrical Engineer but I have a passion for youth leadership and innovation. Through Sports today I have developed models that train and Mentor young people on development of projects that address the different community challenges. My passion and area of study being very different, it was easy for the university to deny me so many opportunities keeping in mind that was not the purpose of my study. However, the university recognized my work and awarded me for my effortsto change the world through football. Since 2017 I have been the University Student Ambassador.

As I graduate, I therefore leave the University as a whole person. When you hear of Holistic Education and Development, it's attainable and I am a beneficiary as DeKUT has demonstrated unparalleled focus and great competence in this.

THE "INTEGRITY MUST BE UPHELD" BATTLE

Will there be refreshments or allowances?" This has been the question whenever students are invited for activities; either professional, mentorships and even when called upon to participate in student-oriented activities. The Allowance disease has taken root and quickly anchoring itself in our minds and mainly in the campus setting. I call it the "Poverty Mentality."Why do we have to be incentivized for us to do what is expected of us both morally and professionally? Does the fish rot from the head or is it the scum that rises to the top? Why have we put money at the center of everything? All what this portrays is," Integrity is at Risk!!!"

If the integrity of a country's future generation is tampered with even in the most minuscule way then it's a failed, rottennation with no future. You see, integrity is an inner sense of derived qualities such as honesty and consistency in character. Character is portrayed by someone's usual patterns of behavior and motives.Unfortunately, most of us, as it is, expect to be pushed and to be begged. This, in a significant way, is preventing us from being serious, thinking outside the box and cultivating in us the trust and the professionalism

that is needed for efficiency in delivering the duties bestowed upon us.

Owning up!!A time has come for us, the University students,to own up to the problem of declining integrity. Wereally need to have the integrity conversation amongst ourselves. However, the discussion needs to start from deep within. The big question is, “Can people rely upon us and trust in our abilities to deliver as expected and within the limits of moral principles?”, “Can you maintain the ethical standards when you are all by yourself and do what is right even when no one is watching, and no reward is expected at the end?”

Upholding Integrity is tough mainly in situations where motivation and rewards are scarce. However, we all have a part to play in the “Integrity Must Be Upheld” battle. During this 8th Graduation, I implore our graduands, students, staff, stakeholders and everyone to maintain ethicalstandards and have the integrity to stand for what is right.Shortcuts make life easier, but they do not always lead to the intended destination. Integrity builds great reputations, guidesdecision making, and professional ethics.A strong moral compass can be compared to an attractive product feature.It makes you stand out amongst multitudes of peopleand makes it easier for other people toinvest in you. However, it would be ignorant not to acknowledge the fact that errors and mistakes are part of us, but the beauty of integrity is that it allows you to own up and learn from these mistakes.

Integrity is an accessory that never fades, gets old or goes out of fashion. Acquire it, and it will be the greatest investment of your life. You attract what you are; raise your standards, work hard and smart and most importantly uphold integrity. Congratulations graduating class of 2019.



Norah Mwiti, Bachelor of Commerce Student, Student Leader - Gender and Disability Mainstreaming Secretary.

IS CANCER A TERMINATOR?

What seems more hopeful; HIV/AIDS vs Cancer? You got your answer. We could define Cancer as the definite life terminator. Josh Friedman, the executive producer of "The Terminator" is a cancer patient. In an article "The Wired", he says that he was on a hospital bed in pain after surgical removal of a cancerous tumour, when he realised the show was about his life. This is when he defines the terminator as a battling cancer patient. This is to comply with the terminators coming and with them they bring death.

Hope?

“Cancer is only going to be a chapter in your life, not the whole story” by Joe Wasser

Is there hope for Cancer Patients in Kenya as a third world country? Hope is what makes us set an alarm hoping to wake up the following day, so, I'd say YES, there's hope. It is however a killer chronic condition, and the chemotherapy (most common regimen in Kenya) has worse side effects than the condition itself. Kibra Member of Parliament Ken Okoth, who is battling colorectal cancer, said it crystal clear, " Chemo drugs are brutal."

So then, what's the hope? I am glad the Kenyan government has realised the essence to provide care for cancer patients and those at risk. Several Cancer Centres coming up, with Kisii County Cancer Centre being the first to be opened early this year. Nyeri County will be a beneficiary too. Cost of managing this dragon is unpredictable, which for years could not be covered by NHIF. We however have hope that soon this is to be considered.

What Now?

Did you know that Cervical Cancer is the second killer disease among women in Kenya? Did you also know that it is



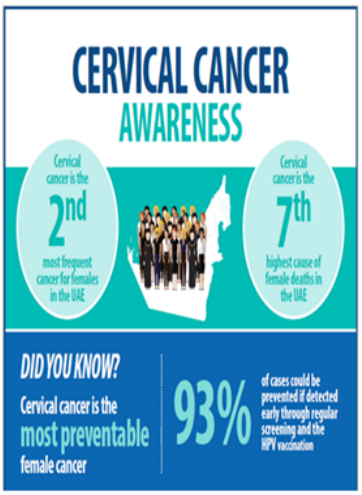


Photo: Courtesy of World Cancer Research Fund

Prevention measures include;

1. Regular cervical screening,
2. HPV vaccination,
3. Quitting smoking,
4. Reducing the use of oral contraceptives,
5. Use of condoms to prevent HPV virus.

the only cancer whose cause is known? This sounds promising and a relief because most of these cases could and can be prevented (not treated).

Nyeri County is one of the few counties in Kenya, benefiting from Universal Health Coverage. The inclusive criteria for this is based on the high prevalence of communicable diseases; Hypertension, Diabetes, Cancer...People are perishing from cancer diseases, the second-most prevalent being cervical cancer, following breast cancer with a margin of 3%. Why and yet we have free cervical screening services readily available in Nyeri Town Health Centre and Nyeri County Referral Hospital?

For instance, smoking is the highest risk factor for lung cancer but still, we are smoking. Breast cancer can be managed if diagnosed early;HOW? Self-Breast Examination is an individual practice that can help detect tumours early. First line family history of cancer poses a great risk to suffer from the same condition. Best choice, regular medical check-up will help not only diagnose it early, but also tap and prevent it from growing, and thereafter live cancer free.

©Student Nurse Kagiri Amos.

CENTRE FOR ENTREPRENEURSHIP **AND INNOVATION MANAGEMENT**

By Sarah Machio Administrative Assistant, CEIM

"Moving towards an entrepreneurial University"

Unemployment among the youth in the world remains a major challenge. Thousands of young people graduate from the institutions of higher learning every year only for them to be frustrated due to the limited opportunities available. One possible solution to this challenge could be self-employment; training the young people to be job creators rather than job seekers. However, venturing into self-employment without proper preparation or the necessary skills would lead to failure or provision of low quality goods and services or low productivity. Institutions of higher learning are key contributors in creating an entrepreneurial ecosystem for these young people to be able to turn their innovative ideas to successful businesses.Kenyan universities have continued playing their traditional role of providing knowledge and research activities. However, the universities should ensure they transform their research outcomes into innovations and consequently tangible products and services for commercialization purposes.

The Centre for Entrepreneurship and Innovation Management (CEIM) has been established atDeKUT to enhance the University`s contribution to the alleviation of unemployment through entrepreneurship and promoting entrepreneurial culture within the University and the community at large. The goal of the Centre is to build entrepreneurial capacity of DeKUT students, staff and alumni, local, regional and national start-up entrepreneurs and practicing entrepreneurs. The Centre will not only provide entrepreneurship training and mentorship services but also consultancy services, research and information dissemination, business development services and short-term courses.

"What good is an idea if it remains an idea? Try. Experiment. Iterate. Fail. Try again. Change the world." - Simon Sinek

CREATIVITY + INNOVATION FOR BREAKFAST



Kenneth Njihia - Project Coordinator, DeHUB

Today's reality dictates that only those organizations that embrace creativity and innovation will sustain competitive advantage in the market place. Successful innovations create change in the society and market place. When a person or a company finds out the connection between creativity and innovation they are able to change the market ecosystem to their advantage.

Creativity is the ability of a company, startup or individual to use original ideas or imagination to create something. Each time we figure out how two or more seemingly unrelated things can work together to develop something new; that is creativity. Application of better solutions that meet new markets or requirement that nobody had yet managed to solve, is innovation. For innovation to be successful companies and startup shouldn't merely aim to create change. Startups ought to choose the right ideas, develop the right processes that will improve performance, create the right products, create services that add value and create products that consumers want. We need to understand the levels and type of innovation for a chance to predict the degree to which our services, product or process will have an impact in our market place and community.

Incremental innovation: little changes that are mainly based on established knowledge. These are modifications to existing services, processes or products. Increase the quality phone pictures and videos are a good example of incremental innovation.Breakthrough innovations: these are innovations with large technological advancements through research and development that propel the existing product or service to have an edge against their competitor.

Disruptive innovation: these innovations take roots initially at the bottom of the market and moves up the market relentlessly to displace the existing alternatives and competitors. Here a new value proposition is created that give the customer more value or utility in a product or service. Every morning we wake up with another chance to change or to improve the human behavior or create products or services that help ease human life. Creativity and innovation comes as the best bet to achieve this. The reward in it is, you create value for your company or startup and your customers.

In the morning we have to let our imagination go wild, invent and create new concepts and ideas. These might be through improvisation, an aleatory technique or divergent thinking. These ideas are just the raw materials for change and worthless unless executed.After the imagination the ideas screening is the next step to select the ideas that are viable and worthwhile. Ideas that we feel are strong and disruptive or incremental or game changer are selected and the process to turn them into products or services starts.

Although they have different origin, creativity and innovation are the major driving force that can change our community and market place. They can command change of the entire industry, create new markets and completely shut down existing companies, products or services. Business that promote creative thinking and support people to push forward creative ideas and turn them into innovations, have a potential to scale their markets and revenue and change the world.

DeHUB

The university innovation and incubation centre was set to reduce the failure of young stage startups and to support economic viable startups to grow. The Hub has created a great entrepreneurial support infrastructure to enable DeKUT students who wish to innovate find required support and resources to build successful businesses.The heart of DeHUB is the student's innovation. The innovators get space, internet, training and mentoring, network activities, service providers and consultants, partnerships and linkages that make the hub the best entrepreneurial environment in the university.

DeHUB works to reduce the chance of failure for ideas to become startups. We have to create a fertile ground for startups to have the disruptive power and lateral thinking ability. In the hub the innovators get freedom to think outside the boundaries, and the independence and freedom serves well to bring the synergy of the best of both worlds.

Nextfounder Program

Having the best idea is not enough; the execution of the idea is the most important thing. We have embarked on a program that will train startup founders on how to test the market gap, size and competitors.

The Nextfounder program is designed to help innovators in business modeling and business model analysis, design thinking, competitive landscape analysis and the good, bad and the ugly for startups. The program is hands-on so that the innovators can apply them directly to their companies.



Business Modeling during NextFounder program

My first encounter with computers occurred when I was 11. Back then it was just games and getting "into" the internet but deep down I felt like I wanted to do more with them than just games. I did not get to know what I wanted till I joined Dedan Kimathi university of Technology. DeKUT turned me from just a computer lover to a competent computer geek, an excellent programmer and a problem solver.

The aspect of computing is very broad. Think about the internet, computer games, even the phone in your pocket is a computer. Sometimes as much as we glorify this kind of technology, there are risks associated with it. Between 2015 November and 2016 April alone, there were more than 130 suicides caused by computer games. This is a very large number, which led to the question, how can we reduce these risks, or finish them altogether? With that, imonitor was born. Imonitor is an online platform that enable parents monitor, or restrict their kid's mobile activities. The portal is accessible at https://imonitorke.com. As the co-founder and CEO of Imonitor, I will ensure that we continue to improve and come up with possible solutions to problems that computing has introduced. We can't argue that these solutions will finish the problem completely, but we sure hope they will reduce the problems.

This journey has been tough. I couldn't have done it alone were it not to be for DeHUB(Dedan Kimathi hub) and other fellow enthusiasts. DeHUB takes an idea and nurtures it to production, with constant supervision and advice. I would like to thank them, and the whole DeKUT community at large.

To the graduands, you have goals, and dreams. Don't let them just be dreams. Wake up and work on them, it is the only way. Since when I was a kid, I always dreamt of being a pilot when I grow up. That the song I would sing every day at my lower primary education. As many may think all that I wanted is to be a person flying people in aeroplanes. Well, that was not my definition of a pilot. My picture of a pilot was to be a person in control of his destiny. I wanted to have my cake and eat it too. As years passed by I started having a different thought of what do I want to become in the future. In high school, this question seemed to have many answers. I had a plate full of options to choose from. I thought to be a mechanical engineer, but I was too lazy to pick up metallic objects. Being a doctor was also on the list of my choices by since even keeping a pet was a problem; this seemed to be too hard for me.

After high school, I did my career choice and that where I decided to make computers my friends. Taking Computer science as a field of study was one of the opening gates to my visions. I was visualising the likes of Bill Gates and Mark Zuckerberg who are the world's top technology entrepreneurs. I had the confidence that by the end of my third year of studies I would be dining on the same table with the likes of these great people. This was not until I attended the first lecture. Nothing seemed like what I had in mind. My dreams of becoming a great software developer started fading away. I couldn't relate Second order Derivatives calculus with anything close to software. By the end of the first year of study, I was so disappointed all my dreams seemed like water under the bridge.

It was not until my second year when I saw the light. The birth of Research and Incubation Center (DeHUB) was the last match left, but it made an explosion as wise men said its darkened when it's about dawn. Joining DeHUB was the greatest thing that happened to me. At DeHUB I was able to learn how to create software and develop solutions that help improve the community. The lesson that I learned from DeHUB is more than technical skills. I got the chance to know how to market my product and various strategies that are key in developing a solution that customers like.

DeHUB provided me with experience to cast my nets into deeper seas where I am certain of a catch. After Completion of my undergraduate education, I was able to start startup companies of my own. The thrill of being a tech entrepreneur was all fueled by the great motivation I got being a member at DeHUB. Some of my startup include Hudutech solutions (www.huduteh.com), Parking Finder (www.smartparkingfinder.co.ke).

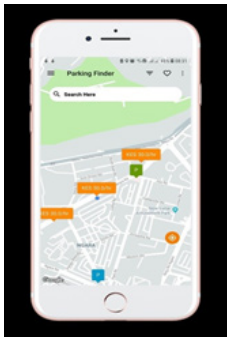
Hudutech Solutions. This is the first startup company I started together with my colleges. The company deals with the development of business solutions such as web applications and mobile applications for both enterprises and small scale business.

ParkingFinder. This is a solution that is available in a mobile application that enables drivers to find parking spaces and



Joseph Momanyi - CEO, Imonitor





Cyrus Njeru - CTO, Parking Finder

reserve from their mobile phones. Being the first of the kind in Africa parking finder makes the process of finding parking easy and very convenient. For more information about this innovation visit the website (www.smartparkingfinder.co.ke). Below is a preview of how it looks [ParkingFinder Kenya App]I never regret to have not been admitted at Harvard University because being a member at DeHUB feels the same way. You get to learn real-life skills that will help you every day of your career.

TERVEYS JOURNEY IN DeHUB

Life gets easier whenever you have a friend who got your back Thanks to DeHUB the journey of terveys foods has been quite easy and productive. The continued support and entrepreneurial trainings in turning our ideas and innovation into business has yield results.

Our Products : Bamboo enriched yoghurt

Yoghurt is one of the most accepted dairy products as shown in different studies. It also has shown to contain beneficial nutrients and health benefits. Bamboo sprouts on the other hand has many nutritional and health benefits. The combined benefits of bamboo sprouts and yoghurt impact to the desired and high quality of the yoghurt.

Group3 food scientist's ladies, Rona, grace and Margaret thought it wise to bring this product to the Kenyan market and fill in the market gap existing of need to consume healthier and natural foods. The research has taken amazing journey and participation in different competitions with help and facilitation of DeHUB.

The journey started with participation at Jkuat tech expo, The JKUAT Tech Expo is a student based technological and innovation platform that enables innovative students across the country to showcase their ideas as well as interested potential investors to actualize their ideas. The expo majors on the Sustainable Development Goals (SDGs). We were lucky to be part of this educative technological competition held on the 9th and the 10th of November.

During the expo the product was exhibited and it was able to impress the public. Exhibitions were also ongoing at pavilion where different people made up of students and staff come around from one tent to another and learning on different innovations. Groups of different judges also came round checking on the best exhibitions on display.

During the series of short listing before the final expo day the team was trained on importance of patenting their idea and different ways of presentation and pitching.

Bamboo enriched yoghurt team did a commendable job and emerged second runners up. This project majored on a key sustainable development goal which is food security.



Bamboo enriched yoghurt and cakes



Terveys team during DeHUB open day



Bamboo enriched yoghurt team receiving award at JKUAT Tech Expo

INTERNATIONAL STUDENT EXCHANGE OPPORTUNIES AT DeKUT

DeKUT has a number of vibrant student exchange programmes which are in line with the University's vision of producing globally competitive graduates and building international linkages to grow her profile as a global premier university of technology. International exchanges are life changing experiences gained by students that make such programmes critical to the institution's internationalization strategy.

To date, a number of DeKUT students have taken part in assignments inside leading laboratories and manufacturing facilities around the world which have had a profound effect on the technical abilities of the students. In addition, living in a foreign country for two or three months at such a early age in their careers gives students invaluable insights and offers them new lenses through which to look at the world.

DeKUT has signed memoranda of understanding with various universities globally for exchange of students. In addition, there some of DeKUT's Student Associations facilitate student exchanges. These include the International Association for the Exchange of Students for Technical Experience (IAESTE) and the Association for the International Exchange of Students in Economics and Commerce (AIESEC). Through these mechanisms, DeKUT has been able to send and receive students from different parts of the world which has not only enhanced the diversity of the university student population but also enabled DeKUT students gain valuable international work experience.

International Student exchange programmes have a host of benefits for students in any institution. Key among them includes:

- To provide an international platform that enables young people to explore and develop their leadership potential for them to have a positive impact on society.
- To provide an enabling environment for cultural exchange
- To provide an academic atmosphere for interactive learning through lectures, travel, observation and participation.
- To provide an atmosphere for a better understanding of African issues through experience and first hand information.
- An opportunity to learn about the culture and technological expertise of other countries
- A chance to view your enterprise from a different perspective and develop present and future business partners within a global context
- To provide an integrated development experience comprised of leadership opportunities, international internships and participation in the global learning environment

BACHELOR OF SCIENCE IN GEOLOGY PROGRAM TAKES SHAPE AT DeKUT *By Collins Munene, 3rd Year BSc Geology student*

Geology is a planetary science that deals with the study of the solid earth, the rocks of which it is composed of and the processes by which they change overtime. Earth science disciplines such as geophysics and geochemistry all rely on Geology. Like all forms of science, studying Geology enables new discoveries and above helps us disseminate more about the world around us. Geology looks at some of the most important issues in society today including energy sources and sustainability, climate change, the impact of development on the environment, water management, mineral resources and natural hazards. By studying these aspects, geologists, along with other scientists, formulate ideas and actions that help in shaping how the earth will look like in future.

The Bachelor of Science in Geology degree program at DeKUT is founded on the belief that students should be equipped with competent skills that meet international standards to enable them to compete globally. The overall goal of Kenya's Vision 2030 is to realize a globally competitive and prosperous nation with a high quality of life among her citizens. Under the economic pillar, mineral and energy sectors are identified as critical in contributing to economic development of the nation and the well-being of its citizen. This will be realized through the incorporation of science and technology in the training process.



Some of the Geology students together with their faculty (Prof. Mariita, front row; Ms. Karanja, 2nd row right and Mr. Njagi, back row right



A Guest speaker from Halliburton (an American oil field service company) sharing insights on the field of petroleum geology



Some 3rd year students being shown how to use a petrographic microscope at KenGen, Olkaria

Exploration and production of minerals, hydrocarbons, water and geothermal require the integration of many different skills and specialties, geo-science disciplines for modelling to determine how to best utilize these resources. Geology imparts these skills. Models have been used to emphasize on various concepts like geothermal exploration and exploitation

Some of the courses in the program require interaction with industry players through attachment and academic visits which are expected to result in knowledge transfer and experience acquisition

The Geothermal Training and Research Institute (GeTRI) is the home of the BSc in Geology program which currently has 2 cohorts. The first group of 17 students joined in May 2017 while another group of 18 students joined the following year in May 2018. All the students were placed here by the Kenya Universities and Colleges Central Placement Service (KUCCPS) and are sponsored by the government. Another group is expected to join GeTRI in May 2019.

The BSc. in Geology program is envisaged to train earth scientists who are knowledgeable enough to join industry and be nation builders. Some of the courses in the program require interaction with industry players through attachment and academic visits which are expected to result in knowledge transfer and experience acquisition.

In order to create awareness and to embrace the Geology training program both in the school and at the community, the students together with the lecturers have founded an association called the *Kimathi University Geological Association (K.U.G.A)*. The association officials are headed by Collins Munene Gitari as the chairman and Mr. Dennis Njagi as the patron. This student organization seeks to help the students link what they learn in class to societal issues. This will come in handy if the organization receives immense support from the professionals and university administration. Furthermore, the association hopes to harness teamwork, community participation and sharpen presentation, leadership and management skills in the student. It has been realized that the course is not known among the junior peers in schools when selecting courses before joining universities. One of the key agenda of the DeKUT student Association is to create awareness of Geology as a course among junior peers like high school students through career days. This will be important to the university as it will help increase the student intake to the course. A few of the activities that have been organised by the association include talks from various professionals, e.g.; a geologist from the oil industry and another from the Geothermal Association of Kenya. These presentations were conceived to help the geology students link what they learn in class to industrial operations. Students, in the past have also had to come together in co-curricular activities like Hikes and nature walks to the most amazing sceneries around the University.

Some of the memorable student-led initiatives include a Geology trivia night, where the students took part in a question-answer session. The group that won the contest went home with over Ksh 2,500 donated by both the students and the GeTRI faculty. All these were in an effort to create fun and a conducive environment for career and social growth.

WISH ME WELL

By Mathews Opemba

Celebrants of this auspicious event
DeKUT graduands of this very moment
The diaries of a time bound season
The bitter roots of education
Life's natural habit of separation and segregation
That some did thrive in the game of scarcity
Others drowned in bountifulness
So they Miss this very occasion
Wish me well that it is over.

The gown
A Hallmark to this graduation
Covers a well wounded bull
That fought furious battles
Furious battles of drug abuse
Scandalous battles of peer pressure
Battles of plenty and insufficiency
Fought against exam irregularities
A fight so sweet. A fight I won
Through the gentle arms of DeKUT
So wish me wellness.
In this scholarly crown

Out there it's thirsty sunny
Hunger spells all corners of my dry village
There where I'm waited for with glares of hope
Carrying their hope.
a symbol of the lamp that lights in the dark
In towns long queues await me.
Rations and bills composed a song for me.
It is a wilderness for every Hunter
Where I shall wonder mining for a job
So bless me DeKUT

As I move out
A confident product of hard work
A competent African child
An ambassador to the gem in central Kenya
Shall I speak well of DeKUT
Serve the DeKUT way
Build the wealthy nation
As you always have wished me well

TWENDE TUIJENGE NCHI



Mekamilika safari, ya si kua darasani,
Nyoyo zimejaa ari, ya kuingia kazini,
Kazi njema mekithiri, zilo mbaya twepukeni,
Twende tuijenge nchi, na katu tusibomoe.

Baadhi tabahatika, haraka tapata kazi,
Wengine tatambarika, miaka hata miezi,
Kwa hali tayokufika, jepushe na ubomozi,
Twende tuijenge nchi, na katu tusibomoe.

Na utapopata kazi, isokua ya malaki,
Usiweke pingamizi, eti haikuwafiki,
Bora wapata ya mwezi, ingia uimiliki,
Twende tuijenge nchi, na katu tusibomoe.

Kianza na hiyo hapo, ujuzi mwingi tajipa,
Nyingine itokeapo, taitwa pasi kutapa,
Kwa ujuzi uliopo, malipo bora takupa,
Twende tuijenge nchi, na katu tusibomoe.

Shida zisizo idadi, zaweza kukumba hadi,
Uiandae miradi, kujunga na ugaidi,
Uje kuua ibadi, umkufuru Wadudi,
Twende tuijenge nchi, na katu tusibomoe.

Kazi ya pombe na bangi, kuwapa wana wachanga,
Ukachuma pesa nyingi, wao shida kiwazonga,
Hili katu halijengi, ndo lazidi kuboronga,
Twende tuijenge nchi, na katu tusibomoe.

Mwisho wa shairi hili, jambo moja kiwambia,
Hata mukienda mbali, Kimathi tawangojea,
Mara moja au mbili, sikose kutembelea,
Na twende tujenge nchi, katu tusiibomoe.

Mtunzi: Mtoto wa Madam Riziki
Ibrahim Mohamed Yeya, 2019

Undergraduate Courses

School of Engineering

Bachelor of Science in Chemical Engineering
Bachelor of Science in Electrical and Electronic Engineering
Bachelor of Science in Mechatronic Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Civil Engineering
Bachelor of Education in Technology (Civil Engineering)
Bachelor of Education in Technology (Electrical and Electronic Engineering)
Bachelor of Education in Technology (Mechanical Engineering)
Bachelor of Science in Telecommunication & Information Engineering
Bachelor of Science in Chemical Engineering

School of Business Management & Economics

Bachelor of Commerce
Bachelor of Business Administration
Bachelor of Purchasing and Supplies Management

Institute of Criminology, Forensics & Security Studies

Bachelor of Science in Criminology and Security Management

School of Science

Bachelor of Science in Industrial Chemistry
Bachelor of Science in Leather Technology
Bachelor of Science Actuarial Science

School of Computer Science & IT

Bachelor of Science In Computer Science
Bachelor of Science in Business Information Technology
Bachelor of Science in Information Technology

School of Health Science

Bachelor of Science in Nursing

Institute of Geomatics, GIS & Remote Sensing

Bachelor of Science in Geomatics and Geospatial Information Systems
Bachelor of Science in Geospatial Information Science and Remote Sensing

Institute of Geothermal Energy, Training & Research

Bachelor of Science in Geological Sciences and Technology

Institute of Tourism & Hospitality Management

Bachelor of Sustainable Tourism and Hospitality Management

Institute of Food Bioresources Technology

Bachelor of Science in Food Science and Technology
Bachelor of Science In Nutrition and Dietetics

Institute of Technical & Professional Studies

Bachelor of Technology in Building Construction

Diploma, Certificate & Professional Courses

School of Business Management & Economics

Diploma in Business Administration
Diploma in Purchasing and Supplies Management

Institute of Criminology, Forensics & Security Studies

Diploma in Security Management

School of Science

Certificate in leather Technology
Diploma in leather Technology

School of Computer Science & IT

Diploma in Information Technology
Certificate in Information Technology

Institute of Tourism & Hospitality Management

Diploma in Sustainable Tourism and Hospitality Management
Certificate in Mountaineering and Outdoor Expeditions

Institute of Pedagogical & Academic Writing Skills

Certificate in German Language

Institute of Food Bioresources Technology

Diploma in Food Science and Technology
Diploma in Coffee Technology and Cupping
Certificate in Coffee Technology and Quality Management

Institute of Technical & Professional Studies

Diploma in Building Technology
Diploma in Fashion Design & Interior Decoration
Diploma in Electrical and Electronics Engineering (Power Option).
Diploma in Furniture Technology and Interior Design
Diploma in Welding, Metal Work and Design
Certificate in Building Technology
Certificate in Fashion Design & Interior Decoration
Certificate in Electrical and Electronics Engineering (Power Option).
Certificate in Furniture Technology and Interior Design
Certificate in Welding, Metal Work and Design
CCNA I,II.III,IV

KASNEB

Certificate in Accounting and Management skills
ATD Level I (Intermediate)
ATD Level II
ATD Level III (Final)
CPA Sec. I
CPA Sec. II-VI

KISM

Certified Procurement and Supply Professional of Kenya (CPSP-K)
Associate in Procurement and Supply of Kenya (APS-K)

Siemens Mechatronics Certification Program

Level i - iv

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