

Newsletter

Dean's Message



Eng. Prof. A. B. Makokha

Welcome to the first edition of the School of Engineering newsletter which serves as an effective medium for dissemination of information and engaging with our stakeholders. The School of Engineering is one of the pioneer Schools of Moi University, having been established in 1986. The School offers six undergraduate programmes, fully accredited by Engineers Board of Kenya (EBK), 7 Master's and 3 PhD programmes. Teaching and learning is done by both face-to-face and blended model. Graduates from the school are highly qualified, innovative and creative. Our graduates are able to synthesize information to create useful ideas or products to address community needs or challenges.



TSA Engineering Expo-2023

This year's edition of Engineering Students' Expo was held on Friday 31st March 2023s. The event was organized by TSA as platform to showcase the students' engineering innovations and new technological advancements. It presents an opportunity for for students to share knowledge and expertise with each other, and to interact and network with industry professionals. The Deputy Vice-Chancellor (Academics, Research, Extension & Student Affairs), Prof. Isaac Kimengi officially opened the event on behalf of the Vice-Chancellor. The expo was supported by the Safety Champions in Engineering Education (SCEE) project at Moi University. The project is funded through [Engineering X](#), an international collaboration founded by the Royal Academy of Engineering and [Lloyd's Register Foundation](#). The project is part of the program of [Engineering Skills Where They are Most Needed](#), which seeks to support the delivery of skills and education programmes that will lead to development of much needed engineering skills capacity, enhanced safety standards, and infrastructure that remains safe. The theme of this year's expo is "**Engineering a safer and sustainable tomorrow**". A total of 45 projects were exhibited in the Expo.

“ **SOLUTIONS TO TODAY'S MOST COMPLEX SOCIETY CHALLENGES LIE IN THE MINDS OF THE MOST CREATIVE ENGINEERS** ”

Winning Teams Expo-2023



RespiTech Ventilator: a low-cost alternative to commercial ventilators that can be produced quickly and efficiently



Smart Digital Incubator: Controller based system that will perform monitoring and control of egg incubators remotely via a phone



Intelligent Traffic Management System: density-based traffic management system that reduces traffic congestion and improves traffic flow



School of Engineering hosts a Safety Workshop

The School of Engineering through funding from Royal Academy of Engineering under the SCEE project held a training workshop on “Assessment of Safety Skills Capacity in Kenya’s Construction Sector” on Friday 9th and Saturday 10th December 2022 at TUMEL, Mombasa. The training workshop brought together stakeholders from industry and training institutions that included National Construction Authority (NCA), Kenya Power (KPLC), Engineering Board of Kenya (EBK), Institution of Engineers of Kenya (IEK), DOSHs, KoTDA, NITA, Technical University of Mombasa, MMUST, KPA, Egis and Sigalagal National Polytechnic. The SCEE project seeks to support the delivery of skills and education programmes that will lead to development of much-needed engineering skills capacity, enhanced safety standards, and infrastructure that remains safe. The key note speakers were Eng. Grace Onyango (EBK), Eng. Walela (NCA), Eng. Peter Mutinda (Kenya Power) and Eng. Nixon Oloo (KPA).

“

be Aware, be Alert, be Alive

Stakeholders underscored the need for specialized safety training programme to address the safety skills gap in the local construction sector and promote a safety culture in the country. The diverse nature of the construction industry is more demanding in the combination of safety skills needed by the industry. The ability to manage construction hazards, to conduct effective safety appraisals and risk analysis, to address environmental and safety limitations in construction projects, and to communicate effectively, were cited by stakeholders as essential to instil safety in the construction industry.



Abraham Mezgebe,
Nelius Maina, Purity
Mutahi, Frankson
Maringa, Amos Lagat



Staggeringly
beautiful views of
Mountains in Nor-
way



NORPART Travel Grant

Moi University in partnership with Norwegian University of Life Sciences (NMBU), invites applications from eligible faculty and graduate students in the School of Engineering and School of Business & Economics for conference support. Eligible expenses to be supported shall include travel, accommodation, subsistence and conference registration fees. The conference should not come earlier than June 2023 and not later than 31st December 2023. Interested applicants to submit a letter expressing their motivation and expected output. They should also send their proposed budget, conference invitation and confirmation of acceptance for the conference presentation. The documents should be emailed to the NORPART Coordinator at Moi University via deanengineering@mu.ac.ke.

Engineering students travel to Norway on exchange Program

Five MSc students from the School of Engineering joined Norwegian University of Life Sciences (NMBU) in February 2023 on 5 months exchange programme (a semester abroad) under the Norwegian Partnership Programme for Global Academic Cooperation (NORPART), funded by the Ministry of Education and Research and the Ministry of Foreign Affairs. Under this project, a total of 25 MSc and 4 PhD students from Moi University, and 12 MSc students from Norwegian University of Life Sciences will participate in the mobility exchange in the fields of Sustainable Energy, Economics, Environmental Science, and Ecology. The project will also support two (2) full scholarships for Moi University graduate assistants to pursue MSc in Norway. During the project launch in August 2022, the Project Coordinator at NMBU, Professor Samuel Muyiwa paid a courtesy call on the VC who was represented by the DVC-ARE Prof. Isaac Kimengi to discuss further collaborations between MU and NMBU



NEW TSA OFFICIALS ELECTED—2023/2024



Isaac Masinde
TSA Chairman

Isaac Masinde is currently a third year Mechanical, Production and Energy Engineering Student. He is passionate about Technology and Innovation and far more passionate about delivery. Like One Old Starehian would put it if you are given a coffee cup to wash, Wash it like it's the last one!



Mirriam Adhiambo
Vice-Chairperson

Mirriam Adhiambo is an Electrical and Telecommunications Engineering student. She has been passionate about technology and innovation and this led her to pursue a career in the field of Electrical and Telecommunications Engineering. As TSA Vice-Chair, she helps to organize events and programs that promote networking, professional development and community outreach among her peers.



Ruth Mokeira
Publicity Secretary

Mokeira Ruth is a 3rd Year, Civil and Structural Engineering student. She is a passionate and enthusiastic soul dedicated to serve efficiently in the TSA organization to ensure there is an increased awareness of TSA and all its related activities among the students; hence more engagement and participation. Aside from that, she is a wide reader, her most recent read, a book by Paulo Coelho; The Valkyries.

Vice-Chancellor Launces Solar-PV system at the School of Engineering

The Vice-Chancellor, Prof. Isaac Kosgey on Tuesday 17th April 2023, launched a 5-kW solar PV system at the School of Engineering. The system will be used for training and research besides supplementing the grid electricity demand of the school. The VC was accompanied by the DVC— Administration, Planning & Strategy Prof. Kirimi Kiriamiti, Dean, School of Engineering—Prof. Augustine Makokha and IREK Project leader, Prof. John Githaiga



School of Engineering Celebrates World Engineering Day

The UNESCO World Engineering Day is celebrated on 4th March as a global event. This year's theme is "Engineering innovation for a more resilient world". Moi University joined the North Rift branch of IEK in celebrating engineering and the contribution of Engineers for a better sustainable world. The event was held within Eldoret town and graced by His Excellency Deputy Governor Uasin Gishu Eng. John Barorot who challenged Engineers to be creative and innovative and ensure all-weather roads constructed survive longer and are economical. He encouraged Engineers to be professional in their work and provide solutions to societal challenges. In attendance were Engineers drawn from various institutions domiciled within the North Rift Region. Moi University was represented by the Dean of School of Engineering, Eng. Prof. Augustine Makokha on behalf of the Vice-Chancellor.



TSA Chairman, Ellyvine Wanjala

TSA holds Engineering Career Fair

TSA in Conjunction with IEK-North Rift Branch, and the Engineers Board of Kenya held a successful Career Fair on the 16th and 17th of February themed 'Leveraging Industry-Academia Partnerships to Advance Careers'. Necessary collaborations, industry preparation and engineering ethics were some of the prominent points of the conversations during the fair. Students utilized the opportunity to register in numbers as IEK student members



Staff Exchange Program

Dr. Mabvuto Mwanza from University of Zambia joined the Department of Electrical & Communications Engineering on exchange program. He has been involved in teaching and supervision of students for one semester. Earlier, Prof. Yassir Abdel Gadir Eltahir Hashim from Gezira University, Sudan, was hosted by the department from 1st November 2022 to 15th November 2022 as a visiting Scholar under sponsorship of ACEII-PTRE. During his stay he conducted research on physical and mechanical properties of fibers extracted from okra bast, held supervision meeting with postgraduate students from Sudan and offered training on use and interpretation of data from DSC and FTIR instruments all available in the department. Also, two administrative staff participated in a 2 months exchange at the School of Engineering between January and March 2023. Ms Noliwe Tembo from University of Zambia and Ms Clara Obiageri from Federal University of Technology Akure, under the SPREE project (Strengthening Mobility and Promoting Regional Integration of Engineering Education in *Africa*). The SPREE project aims at strengthening the mobility and exchange of students and promoting joint research and co-supervision between the partner institutions.



Postgraduate Students from Buea University in Cameroon who are in the School of Engineering a 10 months exchange programme under the Miret Project paid a visit to the Chair, Electrical and Communications Engineering Department.



Ms Noliwe Tembo

Administrator at the University of Zambia (UNZA)



Ms. Clara Madu

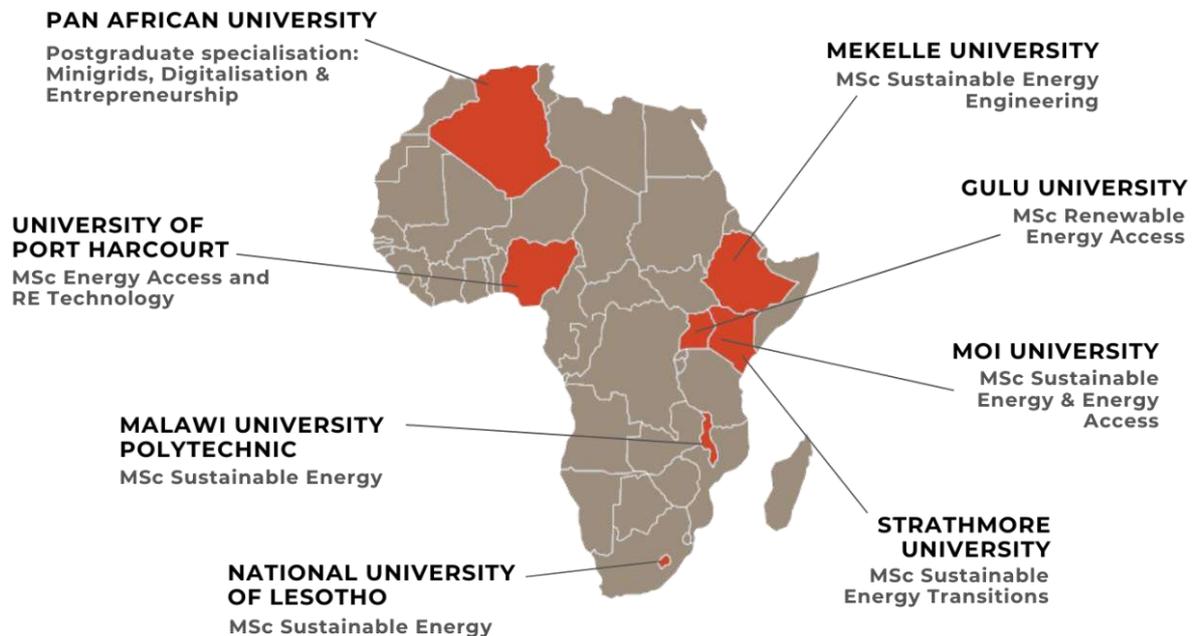
Administrator from the Federal University of Technology, Akure



Dr. Mabvuto Mwanza

Lecturer, Electrical Engineering, UNZA

TEA-LP Project to sponsor Third Cohort of MSc students in Sustainable Energy



The Transforming Energy Access Learning Partnership (TEA-LP) is a partnership of eight (8) African universities coordinated by the University of Cape Town (UCT) under the larger TEA project, committed to delivering professional African graduates ready to drive the continent's transition to sustainable energy access for all. Growing the clean energy access sector in Africa will require people with the skills and competencies to develop innovative solutions and sustainable business models that will allow electricity, from new, clean and decentralized (including off-grid) technologies, to be supplied to consumers at affordable rates. The project was launched at Moi University in 2019. The TEA-LP in partnership with Lichtenstein Institute for Strategic Development (LISD) and UK-Aid has been supporting a scholarship program at Moi University for the MSc degree in Sustainable Energy & Energy Access. A total of 10 scholarships have been awarded since 2021/2022 academic year. In 2023/24 academic year, another 5 scholarships will be awarded. More details on scholarship application can be found at (<https://energy.mu.ac.ke>). The second phase of TEA-LP will be launched in June 2023 at Strathmore University in a Course Uptake Workshop where Twenty three new universities from Africa and the Into-Pacific have been selected to join the TEA-LP network.

**“ Energy is essential for development; and sustainable energy
is essential for sustainable development ”**

School of Engineering to launch new curriculum



Instrumented Fluidized Bed Combustion
Instrumented FBC in Energy Engineering Lab

Why Bachelor of Engineering?

Having engaged closely with employers, students and the engineering profession, the School of Engineering at Moi University aims to change the way engineering is perceived and taught in Kenya to help tackle the huge annual shortfall of 5,000 graduate engineers facing Kenya. Most engineering programs in Kenya are designed with a traditional approach, arranged around a 'linear curriculum' that first teaches science and mathematics and then moves to engineering. Analysis dominates in this approach, usually at the expense of one most important example of the essence of engineering – Creativity. Engineering is about *synthesizing* ideas and *creating* things - products or services to address and solve the problems, challenges or needs of our society. This requires the ability to understand engineering from an interdisciplinary perspective. The School of Engineering at Moi University with the support of distinguished engineering academics and industry professionals, has revised

Combining Problem-Based and Inquiry-Based Learning

its B.Eng curriculum following an Outcome Based approach to align with the realities and dynamism of the market. The purpose is not just to provide more high-calibre engineering graduates, but also to transform the engineering training methodology to ensure that the graduates also have the soft skills that employers say they find in short supply. Learning will follow inquiry-led and problem-based approaches. Applied subjects such as entrepreneurship and project management have been integrated within the core curriculum and not as “bolt on” options. This is contrary to Bachelor of Science (BSc) in Engineering curricula that follow the traditional approach where the focus is on Science and theoretical principles of engineering with some practical and research components to prove the theoretical principles i.e. the Science (analysis) precedes the Engineering. The revised Bachelor of Engineering (BEng) curriculum at Moi University will be launched in September 2023.

By Prof. Eng. Augustine Makokha (Dean of School)



Optical Microscope in Materials Engineering Lab

Graduate Engineers Internship Program

Background

As industrialization advances in Kenya towards attaining SDG9, the level of investment in infrastructure has continued to rise correspondingly while the scale of construction projects has also continued to expand. This has resulted in a growing complexity in the working conditions at construction sites thereby increasing the requirements for safety. To ensure safety and sustainability at all phases of engineering construction projects (design, planning, installation, operation, and maintenance), a well-trained and innovative engineering work force with relevant skills and adequate safety knowledge is needed. Moi University in collaboration with EBK, NCA, KPA, NITA, TUM and KoTDA has launched an internship training program to support upskilling of fresh engineering graduates to become safety leaders in their work places. This would ultimately contribute to lowering the rate of fatalities related to accidents and injuries in the construction sector. The duration of internship shall be 8 weeks. The program is funded by the Royal Academy of Engineering in the UK within the framework of Engineering Skills where they are Most Needed (ESMN).

- Proper handling of construction plant and machinery
- Emergency procedures and first aid
- Environmental sustainability in construction projects.
- Safety culture – active and reactive



Interns on site at KPA, Mombasa

Program Objective

The objective of this internship program is to equip the trainees with knowledge, skills, attitudes and habits to enable them to carry out their duties in the construction industry in a safe manner to prevent occurrences of unsafe operations and accidents in construction projects and thus protect construction workers, users, the public and the environment.

Training Program

The internship training program is structured to cover the following aspects:

- Safety and health management on construction sites
- Construction hazards and the controls
- Site reporting and record keeping.
- Quality criteria for safety of construction material
- Safe storage and handling of material on construction sites



Interns on site at KoTDA, Nairobi

Project Partners



School of Engineering Outreach Program



The School of Engineering is committed to participating in community engagement activities and this financial year the School has undertaken several outreach events within the Moi University community and outside the university. On Monday 13th March

2023, the School, led by Prof. Shitote, Prof. Kibiiy, Prof. Kipkorir, Dr. Mburu and the Dean participated in tree planting for environmental protection. The MSc students in Water Engineering also participated in the event

Proposed Engineering Service Centre

The School of Engineering plans to establish an engineering service centre that shall provide professional engineering consultancy services in the following areas to generate revenue for the School.

- Laboratory test services (Civil, materials, water, energy, electrical, chemical, textiles)
- Geo-informatics and Surveying
- Engineering Project management
- Feasibility studies
- Motor-vehicle garage with fuel pump station

The School of Engineering has several equipment spread across departmental laboratories and workshops including Hydraulics laboratory, Material testing laboratory, Public health engineering laboratory, Energy laboratory (Solar, Bioenergy etc), Machining, Welding & Fabrication workshops and Analytical laboratory (GC, HPLC, Spectrophotometry). The Engineering centre shall utilize its personnel to provide tailor-made professional short courses to targeted clients. The courses offered shall be accredited and certified with relevant organizations and delivered by qualified professionals.

School of Engineering Management Team

Associate Dean & Chairs of Departments



Prof. Joel Kibiiy
(Associate Dean)



Dr. Simon N. Mburu
(CoD– Civil & Structural Engineering)



Dr. Milton Arimi
(CoD– Chemical & Process Engineering)



Dr. David Njuguna - (CoD– Manufacturing,
Industrial & Textile Engineering)



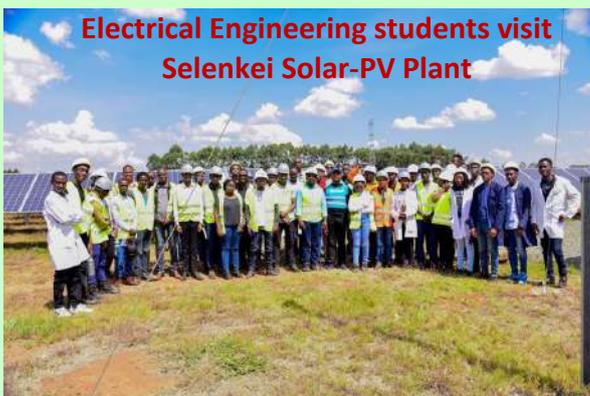
Prof. Zachary Siagi - (CoD– Mechanical,
Production & Energy Engineering)



Dr. Lawrence Letting - (CoD– Electrical
& Communications Engineering)

Chairs of School Committees

- | | | |
|-----|------------------------------|--|
| 1. | Prof. Eng. Augustine Makokha | Chair, Appointments & Promotion Committee |
| 2. | Prof. Anil Kumar | Chair, School Graduate Studies Committee |
| 3. | Dr. Milton Arimi | Chair, Safety & Environment Committee |
| 4. | Dr. Stephen Kimutai | Chair, Staff Welfare Committee |
| 5. | Dr. Cleophas Achisa | Chair, ISO & Performance Contracting |
| 6. | Dr. Stevine Obura | Chair, Examinations & Timetabling Committee |
| 7. | Dr. Simon Chege | Chair, ODEL and School Website Committee |
| 8. | Dr. Anthony Muliwa | Chair, Disciplinary & Examination Irregularities Committee |
| 9. | Mr. Lawrence Omai | Chair, Consultancy & Outreach Committee |
| 10. | Mr. Severinus Kifalu | Chair, Students Academic Counselling & Advisory Committee |



On the 2nd March 2023, a team of 65 final year Electrical and Communications Engineering students and members of staff to the Selenkei-Cedate Solar Power plant. The Selenkei power plant is located in Ngeria on an area of 600 acres near Eldoret in Uasin Gishu County and it injects about 80 Megawatts into the grid. The team was hosted by the Operations and Maintenance Manager of Selenkei, Engineer David Ochola. The staff members included, Mr Severinus Kifalu and visiting postgraduate student from Cameroon, Mr Louis Musong.

Former Deans of School of Engineering



Prof. S. Amaradasa (1986 - 1991)



Prof. P. C. Egau (1991 - 2000)



**Prof. S. M. Shitote
(2000 - 2005)**



**Prof. A. N. Mayaka
(2005 - 2008)**



**Prof. K. Kiriamiti
(2008 - 2011)**



**Prof. P. Wambua
(2011 - 2013)**



**Prof. S. Sitati
(2013 - 2022)**

MSc in Electrical Engineering Launched



Moi University

Foundation of Knowledge

ISO 9001:2015 Certified Institution

School of Engineering

**Department of Electrical and
Communications Engineering**

Requirements

- ✓ Bachelor's degree in Electrical and Electronics Engineering or bachelor's degree in Electrical and Telecommunications Engineering of Moi University.
- ✓ Relevant bachelor's degree of any other accredited university accredited/recognised by Commission for University Education, Kenya.

Eligible and interested candidates can apply online here (<https://admissions.mu.ac.ke/>) and attach all required documents. The applicants should request their referees to fill the referee forms that are accessible from here: (https://www.mu.ac.ke/images/Students_downloads/referee.pdf)

Master of Science (MSc) Electrical Engineering. with specialties in:

- ✓ Electrical Power Systems,
- ✓ Telecommunications.

Mode of Study

- ✓ **Fulltime**
- ✓ **Venue:** Eldoret Town Campus
- ✓ **Commencing:** Scheduled to start in September, 2023
- ✓ **Duration:** 2 years

The duly filled post-graduate application forms should be emailed to the following contact to be received not later than **31st July, 2023**.

Dean, School of Engineering,
Moi University, Eldoret,
P.O BOX 3900-30100.
Email: deanengineering@mu.ac.ke
Copy to: electrical@mu.ac.ke

Apply Now

2023/2024 Academic Year

PhD in Electrical Engineering



Moi University

Foundation of Knowledge

ISO 9001:2015 Certified Institution

School of Engineering

**Department of Electrical and
Communications Engineering**

Doctor of Philosophy (PhD) Electrical Engineering. with specialties in:

- ✓ Electrical Power Systems,
- ✓ Telecommunications.

Mode of Study

- ✓ **Fulltime**
- ✓ **Venue:** Eldoret Town Campus
- ✓ **Commencing:** Scheduled to start in September, 2023
- ✓ **Duration:** 3 years

The duly filled post-graduate application forms should be emailed to the following contact to be received not later than **31st July, 2023**.

Dean, School of Engineering,
Moi University, Eldoret,
P.O BOX 3900-30100.
Email: deanengineering@mu.ac.ke
Copy to: electrical@mu.ac.ke

Requirements

- ✓ To qualify for admission into the programme, a candidate shall normally be a holder of either of the following degrees:
 - A master's degree from Moi University in Electrical Engineering.
 - A relevant master's degree of any other accredited University recognised by Kenyan Commission for University Education.
- ✓ In addition to a Master's degree, an applicant shall normally have a Bachelor's degree.

Eligible and interested candidates can apply online here (<https://admissions.mu.ac.ke/>) and attach all required documents. The applicants should request their referees to fill the referee forms that are accessible from here: (https://www.mu.ac.ke/images/Students_downloads/referee.pdf)

Apply Now

2023/2024 Academic Year