

# **IEEE KENYA SECTION**

Kithinji Muriungi, Chair (muriungi254@ieee.org)

The 123rd IEEE Region 8 Committee Meeting <a href="http://october-2024.ieeer8.org/">http://october-2024.ieeer8.org/</a>
Bordeaux, France, 19–20 October 2024

ieee.org



**IEEE Kenya Section: ExCom Officials** 

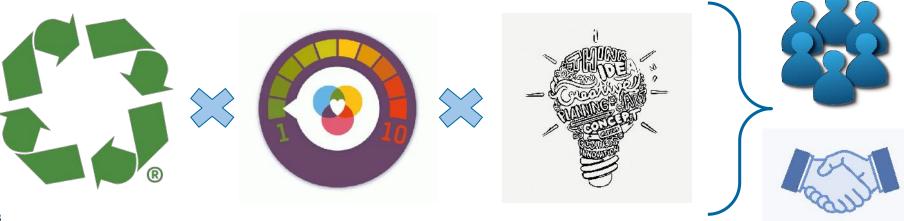
# 2024/25

- ► Chair Kithinji Muriungi
- ▶ Past-Chair Esther Muchiri
- ► Vice-Chair \*\*VACANT\*\*
- ► **Secretary** Stephen Okwiri
- ▶ **Past-Secretary -** Girmaw Abebe
- ► Vice-Secretary \*\*VACANT\*\*
- ► Treasurer Cosmas Kiruki
- ▶ **Past-Treasurer** Lavender Ndunya
- ► Vice-Treasurer \*\*VACANT\*\*



# **Our Goals**

- 1. **Sustain**: Everything that's working well through adoption of best practices!
- 2. **Scale**: Successful best practices from OUs
- 3. Innovate:
  - a. Attracting & Retaining All Member Grades
  - b. Supporting Industries and Industry Partners



# Some Major Events, Project,

## HTB SIGHT/Tech4Good/Society Projects:

- Ngamwa Solar Project Sheila Otuko- Final Stages
- Obaro Clean Water Project Sophia Musa-InProgress
- Angaza Tumaini Solar Project Allan Koech Complete
- Wind Project with MUT Watila Pending
- ComSoc Connecting the Unconnected in Kakuma Humphrey, Mercylyne, Dr. Ronoh Complete
- K-12 Initiative by SPS Stephen Okwiri / SuzzanneAmanda InProgress
- Regi Tech4Good Project
- ➤ EPICS DeKUT Project
- Mumui Water Tech4Good Project

# **Events & Activities:**

- > IEEE President's Visit in Kenya
- > Startup Summit
- **EBK EPC 2024**
- > IEEE Tech Ignite Summer Camp 2024 (19-24 Aug 2024)
- EA Entrepreneurship Summit & YP Networking -(22-25 April)
- Mentorship (KU & DeKUT)
- CASS Student Design Competition
- > IEEE TUK Symposium & Joint DL
- > KU Innovation Showcase day
- ➤ IEEE R8 SYP
- ➤ Volunteer Leadership Training
- Section ExCom Campus Tour



# Section Activities UPDATES



# IEEE President's Visit to Kenya: Tom Coughlin

14th - 15th October 2024











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# IEEE President's Visit to Kenya: Tom Coughlin

14th - 15th October 2024











**April 2024** 



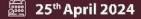






### EA IEEE ENTREPRENEURSHIP **SUMMIT 2024**

THEME: Fostering Entrepreneurial Innovation In Technology



Strathmore University Nairobi, Kenya

**Early Bird Registration Now Open!** 































YOUNG PROFESSIONALS

NETWORKING









EA IEEE ENTREPRENEURSHIP **SUMMIT 2024** 





THEME: Fostering Entrepreneurial Innovation In Technolog **SPEAKERS** 

Chairperson IEEE Entrepreneurship IEEE Kerna Section Serial Entrepreneur





DVC Research & knowater



IEEE R8 Vice-chair

Member Activities















Award Winning Artist



Engineering Program.





FinTech - French Embassy





















PITCH COMPETITION

UNLEASH YOUR ENTREPRENEURIAL SPIRIT AND SHOWCASE YOUR COOLINDODE A KING TECH IDEAS FOR A ROICHTER TO HORROW

### THEMATIC AREAS











Winners will pitch in IEEE RR Entroprenounthly and VESIST platforms globally Students and Professionals are encouraged to apply.









# **IEEE Entrepreneurship Workshop**

**April 2024** 





# Exposition & Sponsorship: EBK - EPC 2024

May 2024





# **Exposition & Sponsorship at EBK - EPC 2024**

May 2024















### THE 5<sup>TH</sup> ENGINEERING PARTNERSHIPS CONVENTION

Engineering@60: Reflections, Response, Resetting

### Innovation Fair

Engineering the Future: Sustainable Innovations for a Connected World















**CLICK HERE TO REGISTER** 20PDUs













Ministry of Roads and







# **IEEE Kenya ExCom Campus Tour**

\*\*\* 2024









# **Global Exposition - Kenya Volunteers**

**VENYA SECTION** 

\*\*\* 2024











ISGT ∰



# **Global Exposition - Kenya Volunteers**

\*\*\* 2024











@Greece durin

Academy on Data Science in

# **RECENT PROJECT: Connecting the Unconnected Project**

2023-2024



IEEE ComSoc Kenya Chapter and IEEE SIGHT Kenya Section, in collaboration with Action pour le progrès of Kakuma and Global Innovation Valley of Kalobeyei.

Implementation of a community network in Kakuma and Kalobeyei refugee camps in Turkana County, Kenya.

Launched in October 2023, this initiative aimed to empower refugee communities by providing them with critical access to information and communication technologies (ICT).

# Students UPDATES



# **Section Student Volunteers Leadership**

- Student Activities Chair: Allan Kimeli
- Student Representative: Valery Chebet
- ▶ IEEE SAC Kenya Team: Valery Chebet; Jenipher Ogara; Richard Otieno; & Brian Okari

### **Active Student Branches (SBs):**

- 1. Technical University of Kenya (TUK) Japheth Okello
- 2. Multimedia University of Kenya (MMU) Jully Kyambi
- 3. Moi University (MU) Newton Mark Lijoodi
- 4. Kenyatta University (KU) Valery Chebet
- 5. Strathmore University Joy Muntet
- 6. University of Nairobi (UoN) Sherry Were
- 7. Masinde Muliro University of Science and Tech' (MMUST) -
- 8. Jomo Kenyatta University of Agriculture and Tech' (JKUAT) Erick Gitonga
- 9. Dedan Kimathi University of Technology (DeKUT) Irene Korir

### **New SBs**

- 10. Muranga University of Technology (MUT) Jacinta Wangari Njeri
- 11. South Eastern Kenya University (SEKU) Morgan Waweru
- 12. United States international University Africa (USIU-A) Caroline Kausi

### In Petition SBs

- 13. Technical University of Mombasa (TUM)
- 14. University of Eldoret (UoE)
- 15. Machakos University













4th Oct 2024

















### Internet of Things workshop series: Session 1

### Introduction to IoT and Embedded Systems

Discover the basics of IoT technology and how embedded system power smart devices. Whether you're new or experienced, this is great chance to explore the future of connected technology!

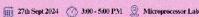


Broono Opondo Robotics and To'l' developer

Samuel Kiragu



Robotics and to I developer



Register now at : https://events.vtools.ieee.org/m/435571



### Sensors and actuators

Dive deeper into the world of IoT systems as we focus on how sensors gather real time data and actuators perform actions based on the data provided.

Be sure to carry your own developer hoards and kits tomake the

session more interactive and hands on!



R.A.5 chair TUK

3:00 - 5:00 PM 2 American Wing 403



### Internet of Things workshop series: Session 3

### Protocols

Join us for the third session of the IoT workshop series where delve deep into IoT protocols and their place in designing IoT systems.

### Facilitator:



!Remember to carry your arduino kits and laptops with the arduino IDE installed to make the session more interactive!





IIth Oct 2024 5 3:00 - 5:00 PM 2 American Wing 403

Robotics and Automation"

"First Steps in

Guide to the introduction to **IEEE Robotics and Automation** Society: Exploring the Basics



### Ian Okoth Secretary IEEE

**Technical University Of** Kenya Branch.

Chair Robotics and **Automation society** TUK.

**Google Meet** 

15th June 2024 7.30 to 8.30 pm







Murang'a University of Technology

IEEE RAS Student Branch













The professional home for the engineering and technology community worldwide











**VIEEE** 



# Semiconductor Technologies Limited(STL) Industrial Visit

**Date: 27th May 2024** 

**Location: STL at DeKUT** 

Society: CAS DeKUT

## **Exploring Industry Connections:**

Members were provided with valuable insights into the semiconductor industry

Hands-On Exposure: Provision of practical exposure to semiconductor manufacturing processes, bridging the gap between academic knowledge and real-world applications.

**Networking Opportunities**: Students engaged with industry experts, gaining insights into career paths and emerging trends within the semiconductor field.

### **Best Visuals**





# **IEEE DeKUT Start-Up Summit**

Date: 9th October 2024

Location: DeKUT

Society: PES & WIE DeKUT

The IEEE Dedan Kimathi University of Technology Start-Up Summit 2024, themed Innovate, Launch, Scale: Building Resilient Startups and Business Leadership for the Future, brought together over 100 participants, including students, aspiring entrepreneurs, and industry professionals

The summit offered a platform for attendees to engage in dynamic discussions, expert panel sessions, and startup pitching opportunities.

It focused on fostering innovation, entrepreneurship, and business leadership, equipping participants with insights on launching and scaling successful startups.













# **NIOL WORKSHOP**

**Host:** Multimedia University SB & Photonics Society

Date: February 2024

Venue: NIOL Lab

### **ABOUT THE EVENT:**

- Theme: Unveiling the Power of Light.
- Organised by the Photonics society in collaboration with the other SB Photonics Societies and Photonics Kenya Section.
- Areas covered in the workshop:
  - 1. Laser Safety and handling.
  - 2. Michelson Interferometer Kit.
  - 3. Polarization and 3D Cinema Technology Kit.
  - 4. Fourier Optics Kit.
  - 5. Optical Microscopy Kit.
- Attendees were able to interact firsthand with the state of the art light technologies.
- In future, the SB plans to have more workshops so as to delve deeper into light technologies



# Affinity Groups UPDATES



# **Section Affinity Groups Volunteers Leadership**

- 1. IEEE Women in Engineering (WIE): Dr. Njeri Ngaruiya, PhD
- 2. IEEE Young Professionals (YP): Jenipher Ogara
- IEEE SIGHT: Dennis Kemboi



# **IEEE YP Kenya**

# 2024/25

- ► Chair Jenipher Ogara
- ▶ **Past-Chair -** Fidel Makatia
- ► Vice-Chair Brian Masoso
- ► Secretary/Treasurer Wagatune Mwaura
- ▶ Publicity Lead Chris Murimi
- ► Industry Liaisons Timothy Kipchumba, Daniel Obare, Reu Kemboi
- ► **Membership Development -** Gerald Njakai
- ► University Relations Elyas Smaida



# **Meetup & Networking**

# YP Networking Cocktail, 26th April at Cafe Amka

### **Experiences:**

- ► Theme: Entrepreneurship
- Major focused activity was networking and award recognition for IEEE Entrepreneurship Summit
- ► IEEE Entrepreneurship, IEEE HTB and YP Kenya Section
- ▶ Budget: \$1500 from YP Funding
- ► Report on: LinkedIn, YP Scoop, vTools
- ► Impact: Great space for YP Networking

### Lessons Learned, Challenges & Takeaways

- Quality professional networking events will attract YP attendees
- Attendees will pay for an event if it is well publicized and brings value
- \* Balance between cost and venue

### **Recommendations**

- Have enough time for publicity
- Focus on target audience for the attendees
- Have quarterly professional networking events.

### **Best Visuals**









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# **YP Connect**

### YP Connect Webinar Series

### **Experiences:**

- Webinar 1: Financial Literacy
- Webinar 2: Work-Life Balance
- Webinar 3: YP Membership Development
- Major focus on soft skills and Membership Development
- ► Report on: LinkedIn, YP Scoop, vTools
- Impact: More YP AG visibility, interest in joining the AG for graduating student members and new YPs joining IEEE.

## Lessons Learned, Challenges & Takeaways

Webinars offer an inclusive, affordable means of spreading information and learning

### Recommendations

 Have quality webinars that are well spread out.

### **Event Posters**





# **Professional Development & Mentorship**

# YP Development and Mentoring Meet

### **Experiences:**

- Session 1: 31st August 2024
- Session 2: 21st September 2024
- Major focus on Mentorship in different career tracks as well as soft skills
- ► IEEE YP, IEEE PES, IEEE Mentoring Meet
- Report on: LinkedIn, YP Scoop, YP Reporting, vTools
- Impact: Student and Young Professionals mentorship from Industry leaders

## Lessons Learned, Challenges & Takeaways

- Partnerships to offset the budget
- Role of proper timelines for overall event success

### **Recommendations**

 Have more mentorship opportunities and tracks for the members

### **Best Visuals**







# **Social Activities**

# YP Forum, 12th August at American Corner

### **Experiences:**

- Open discussion on YP challenges balancing workplace demands and volunteering
- Further discussion in membership retention of students and YPs
- ► IEEE Kenya Section, IEEE YP
- ► Report on: LinkedIn, vTools
- ► Impact: More YP AG visibility, interest in joining the AG for graduating student members and new YPs joining IEEE.

# Hike and Bike, 5th October at Karura

Collaboration with Student Branches in celebration of IEEE Day 2024.

### Recommendations

 Have social activities for members to have open discussions on their current status and how to improve the AG.

### **Best Visuals**



# **Chapters UPDATES**



# **Section Technical Chapters Volunteers Leadership**

- 1. Computer Society Alex Watila
- 2. Power & Energy Society (PES) Chaltu Marta
- 3. Communications Society (ComSoc) Humphrey Muhindi
- 4. Photonics Society (IPS) Mercylyne Tuwei
- 5. Circuits & Systems Society (CASS) Allan Koech
- 6. Signal Processing Society (SPS) Stephen Okwiri
- 7. Electron Devices Society (EDS) Stephen Okwiri
- 8. Industrial Electronics Society (IES) Vincent Egessa
- 9. Microwave Theory & Technology Society (MTT-S) Dennis Kemboi

### **NEW CHAPTERS:**

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- 10. NANO Joan Korir
- 11. AP/CIS/VT Joint Maurine Chepkemoi
- 12. AES/RA/CEDA Joint Stephen Okwiri
- 13. SEN/SYSC Joint Stephen Okwiri
- 14. Industrial Application Society (IAS) Marta Chaltu









# IEEE MICROWAVES & ANTENNAS WORKSHOP

### **IEEE MTT-S DELEGATES**









IEEE APS-S DELEGATES









Join us for an exclusive Microwove and Antennas Workshop featuring esteemed delegates from EEE MTT-5 and IEES APP-5, levote your knowledge, network with inclusiry leaders, and explore cutting-odge advancements in microwove technology and antenna design.

Monday | 29th July 2024 | Manu Chandaria Centre, UoN











The professional home for the engineering and technology community worldwide













# **IEEE PES Kenya**

# SCADA

# **ENGINEERING MASTERCLASS INDUSTRIAL VISIT**

Join Us In Our Upcoming Industrial Visit & Training At



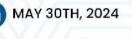
8:30 am To 1:00 pm



Centurion Systems Ltd (attendance will be virtual and physical)



(Rhapta Road Westlands opposite lbys Hotel)



















Join Our Webinar

### ADMS ADVANCED MASTERCLASS

Best Practices in Energy Management Systems (EMS) Applied in Hyperscale Data Centres: A Power Management Perspective Using Ignition SCADA System



MR. EDUARDO AUDICHE























# **CAS Seasonal School on Wearable Technology**

Date: 21st-23rd March

Location: DeKUT

**Society: CAS** 

The CAS Seasonal School on Wearable Technology brought together over 55 students from various IEEE Student Branches across Kenya and featured more than 17 renowned speakers from around the globe.

The event aimed to explore cutting-edge advancements in wearable technology, offering attendees valuable insights into key areas such as data processing, signal analysis, and user-friendly interface design for wearables.

This successful event was made possible through the invaluable support of our partners and sponsors: IEEE Circuits and Systems Society (CASS), Gearbox Europlacer, IEEE Computer Society, WAZIUP, and TinyML.

### **Best Visuals**









#### **Upcoming: Photonics in Security and Surveillance**

Date: 15th-17th & 19th October

**Location: Dedan Kimathi University of Technology** 

Society: Photonics Kenya & Photonics DeKUT

An opportunity to explore the role of photonics in security and surveillance

Theoretical and practical aspects featuring hands-on training in closed and circuit television installation and maintenance.







## **IEEE SPS Kenya Chapter: K-12 Editions**



1<sup>st</sup> Edition; Kitisuru, Nairobi (December 2023)



3<sup>rd</sup> Edition; Mt. Kenya Academy, Nyeri (March 2024)



2<sup>nd</sup> Edition; Our Lady of Mercy Secondary School, Nairobi



4th Edition; Children in Freedom School, Nakuru (March, 2024)



## **IEEE SPS Kenya Chapter: K-12 Editions**



5<sup>th</sup> Edition; Samburu Girls Foundation, Samburu



7th Edition; Makerere Primary School, Uganda (July 2024)



6th Edition; Blessed Hope Secondary School,



Schools, Tanzania (July 2024)



# **IEEE SPS Kenya Chapter: K-12 Workshop Sessions**





**IoT & Robotics** 



Virtual Reality



Mentorship & Pitching



Mental Health & Self Awareness



**Design Thinking** 



**Culinary Arts** 



**IEEE Tech Ignite Summer School** 











#### 1-DAY AP-S / MTT-S / EMC-S / GRSS

# JOINT DISTINGUISHED **LECTURE WORKSHOP**



Levent SEVGI Atlas University - TR IEEE AP-S DL (2020-2023)



**Atif SHAMIM** KAUST - SA IEEE AP-S DL (2024-2026)



Shiban KOUL IIT Delhi - IN IEEE EMC-S DL (2024-2025)



**Carlos L Martinez** Catalunya PolyTech University - SP IEEE GRSS DL (2020-2024)



**Reu KEMBOI** Host IEEE Kenya AP-S Chapter Chair



Stephanie ORARO MTTS Tuk Chair



Christiano TOMASSONI University OF Perugia - IT IEEE MTT-S DL (2024-2026)





THE TECHNICAL UNIVERSITY



**OF KENYA** 













# Industry UPDATES



### **Visit to Kenya Space Agency**

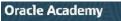




#### **MoU with Oracle** 2024







Follow:

Drive Knowledge, Europe, Middle East, Africa, Innovation, Skills Development

#### Empowering tomorrow's engineers: Oracle Academy introduces Primavera P6 to young engineers, earns an IEEE Kenya honor

December 15, 2023 | 4 minute read



Senior Regional Director, Oracle Academy, EMEA







The Institute of Electrical and Electronics Engineers (IEEE), recognized as the professional home for the engineering and technology community worldwide, stands at the forefront of bringing together engineers, scientists, and technologists to advance technology for the betterment of humanity. In this spirit of innovation and collaboration, Oracle Academy has played a pivotal role in supporting IEEE Kenya's mission by actively participating in key events and programs, fostering knowledge exchange and technological advancement.

#### **Oracle Academy**

Follow:



Europe, Middle East, Africa, Skills Development

#### IEEE Kenya summer camp showcases cutting-edge Oracle technologies

September 30, 2024 | 3 minute read



Regional Director, Oracle Academy, EMEA









The Oracle Kenya office was pleased to welcome the IEEE Kenya summer camp student congress consisting of 44 students majoring in computer science and engineering from 12 universities on August 22, 2024. The students enjoyed an exciting day of learning and networking, packed with presentations and hands-on sessions that introduced them to various skills development tools and technologies from Oracle, a global leader in cloud solutions and enterprise software.

# DEI UPDATES





# **Fostering Inclusion in Sensing Technologies**

**Exploring Strategies to Foster Inclusion** in Sensing Technologies, Driving Collaborative Excellence and Shaping a More Equitable Future in the World of Sensors.



**Golden Tulip Westlands** 



October 2024



Alicia Olago Senior Product Manager Sensors Africa









# Ongoing Projects UPDATES



#### **Ongoing Project: Ngamwa Solar Afya**

Date: November 2023 to ...

Location: Ngamwa Dispensary, Mukurwe-ini, Nyeri

Society: PES DeKUT

The Ngamwa Solar Afya Project, now in its final stages, has successfully utilized solar energy to enhance healthcare delivery in rural Ngamwa.

By providing reliable power to health centers, the project has ensured consistent operation of critical medical equipment, lighting, and refrigeration for vaccines and medicines, addressing the frequent power outages in the region.

As we approach the project's conclusion, we extend our heartfelt appreciation to the dedicated volunteers whose efforts have been instrumental in making this project a reality. T

#### **Best Visuals**







#### Ongoing Project: Mumui Community Water Tech4Good Project, Isiolo

Date: June - Dec 2024

Location: Mumui Village, Ruiri, Isiolo-Meru

Society: SIGHT Kenya





#### **Ongoing Project: Obaro Water Project, Budalangi**

Date: 2023 - 2024

Location: Bulwani, Budalangi

Society: SIGHT Kenya & KU SB





#### Site Visit

Bulwani, Budalangi



June 2024

#### **Project Activities**

- **Social Corporate Resposibility**
- ✓ Community Outreach
- √ STEM Mentorship
- ✓ Mini Hackathon











# Planned Activities & Projects UPDATES







#### INTERNATIONAL MICROWAVE & ANTENNAS SYMPOSIUM (IMAS 2025)



THEME: ANTENNAS & MICROWAVE TECHNOLOGIES FOR SUSTAINABLE DEVELOPMENT





SPONSORED BY: IEEE MTT-S AND IEEE AP-S





EEE KSYP 2024

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## SMART LIVING CONFERENCE

EMPOWERING KENYA BY FOSTERING INNOVATION FOR SUSTAINABLE LIVELIHOODS

Join leading researchers, engineers, and industry titans as we explore the future of SMART LIVING, together in a collision of ideas, a spark that ignites innovation.







IEEE SIGHT KENYA PRESENTS:

Hornanitarian

Technologies

♦ IEEE 2

#### OBARO CLEAN WATER INITIATIVE

An initiative that seeks to address the challenge of inaccessibility of clean water for the people of Bulwani in Budalangi constituency.





Installation of a Solar Powered
Water Treatment Plant

Implementation of a Women's

**Empowerment Program** 

Project Scope:







#### **CALL FOR PROJECTS**

- Planning du rest







# Congratulations!

Regina Yego Girls Center Solar Power
Project in Eldoret

Mumui Water Project in Isiolo By: Kithinji Muriungi & Allan Kimeli

By: Alex Watila & Kennedy Muchina

IEEE Kenya Section extends congratulations to the volunteers who were awarded grant funding for the projects mentioned above for securing funding to carry out their engineering humanitarian initiatives.





Humanitarian Technologies



# EPICSINIEEE

Service learning projects funded by the Industry Applications Society (IAS).

Cood luck to the IAS members as they complete their projects.

Solar Powered Water Purification and Real-Time Monitoring Project- Kenya Empowering Rural Schools: Early Engineering and Smart Energy for Equity - Colombia Multimodal Smart Glove for Enhancing Livelihood of Disabled Children - India

Swarm DC Grid for Rural Electrification in Topi Region - Pakistan

Water Storage,
Automated Irrigation,
and Waste Management
in the Matoruco
Agroecological Garden
- Colombia

Semi-automated Machine for Roasting Coffee Beans -Mexico

Snapping Shrimps in Northern Aegean Sea: Acoustic Behavior and the Impact of Noise on the Species - Turkey Al-based Coconut De-husking Machine - India

A Comprehensive
Maintenance Strategy
for Electric Vehicles:
Empowering Rural
Communities
- India

IAS J. Linking Research to Practice

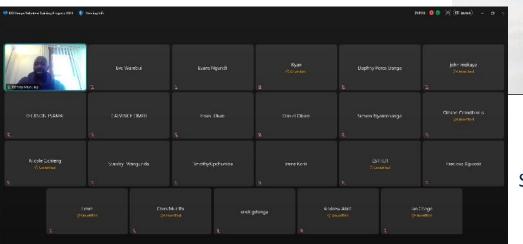
User Customizable Multifunctional Wheelchair for Disabled - India Solar-based Street
Lights and Maintenance
for Sustainable and Safe
Communities
- India

#### IEEE Kenya Volunteer & Leadership Training Program: 6 Months

August 2024 - February 2025

**60 Local Volunteers** 





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#### **Program Architects:**

Esther Muchiri & Humphrey Muhindi (Volt 14) **Program Host:** 

Stephen Okwiri (Volt 23) & Kithinji Muriungi (Volt 19)





