

The 4th Meru University of Science and Technology

International Conference on

INNOVATIVE RESEARCH FOR COMMUNITY EMPOWERMENT:

Addressing Global Challenges and Sustainable livelihoods

Meru, 25th to 27th June 2025

- ORGANIZED BY:** Meru University of Science and Technology
- IN CONJUNCTION WITH:** National Research Fund (NRF) and African Journal of Science, Technology and Social Sciences (AJSTSS)
- KEYNOTE SPEAKER:** **Dr. Beatrice Muganda Inyangala**
Principal Secretary, State Department for Higher Education and Research
- VENUE:** Meru University of Science and Technology, Main Campus

CONFERENCE PROGRAMME

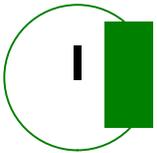
In Partnership With:



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Kenya National Anthem



1

Oh God of all creation,
Bless this our land and nation,
Justice be our shield and defender,
May we dwell in Unity,
Peace and Liberty,
Plenty be found within our borders.

2

Let one and all arise,
With heart both strong and true,
Service be our earnest endeavor,
And our homeland of Kenya,
Heritage of Splendor,
Firm may we stand to defend.

3

Let all with one accord, in common bond
united,
Build this our nation together,
And the glory of Kenya,
The fruits of our labor,
Fill every heart with thanksgiving.





1

East African Anthem

Ee Mungu twaomba uilinde
Jumuiya Afrika Mashariki
Tuwezeshe kuishi kwa amani
Tutimize na malengo yetu.

3

*Jumuiya Yetu sote tuilinde
Tuwajibike tuimarike
Umoja wetu ni nguzo yetu
Idumu Jumuiya yetu.*

2

Uzalendo pia mshikamano
Viwe msingi wa Umoja wetu
Natulinde Uhuru na Amani
Mila zetu na desturi zetu.

3

Viwandani na hata mashambani
Tufanye kazi sote kwa makini
Tujitoe kwa hali na mali
Tuijenge Jumuiya bora.



KCB FOUNDATION





Italian National Anthem

1

Fratelli d'Italia, l'Italia s'è desta,
dell'elmo di Scipio, s'è cinta la testa.
Dov'è la Vittoria? Le porga la chioma,
ché schiava di Roma Iddio la creò.

4

Dall'Alpi a Sicilia, dovunque è Legnano,
ogn'uom di Ferruccio, ha il core,
ha la mano,
i bimbi d'Italia, si chiaman Balilla,
il suon d'ogni squilla, i Vespri suonò.

4

Coro:

Stringiamoci a coorte, siam pronti alla morte.

*Siam pronti alla morte, l'Italia chiamò!
Sì!*

Noi fummo da secoli, calpesti, derisi,
perché non siam popolo, perché siam divisi.

Raccolgaci un'unica, bandiera, una
speme:

di fonderci insieme, già l'ora suonò.

5

Son giunchi che piegano, le spade vendute:
già l'Aquila d'Austria, le penne ha perdute.
Il sangue d'Italia, il sangue Polacco,
bevè, col cosacco, ma il cor le bruciò.

2

Uniamoci, amiamoci, l'unione e l'amore
rivelano ai popoli, le vie del Signore.

Giuriamo far libero, il suolo natio:
uniti, per Dio, chi vincer ci può?

6

Evviva l'Italia, dal sonno s'è desta,
dell'elmo di Scipio
s'è cinta la testa. Dov'è la vittoria?!
Le porga la chioma, ché schiava di Roma
Iddio la creò.



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

VICE CHANCELLOR'S WELCOME NOTE



Ladies and gentlemen,

Warm Greetings and Shared Purpose

To our distinguished guests, researchers, faculty, students, community partners, and champions of progress: a heartfelt welcome to **MUSTIC 2025**. It is an honor to open this pivotal gathering, where brilliant minds unite under a theme that defines our mission: **Innovative Research for Community Empowerment**. This is not merely a slogan it is our shared commitment to ensuring knowledge transcends academia and becomes a catalyst for tangible, grassroots transformation. Your presence reaffirms our collective resolve to place communities at the heart of

discovery.

The Imperative of Empowerment-Driven Innovation

True innovation demands more than technical novelty; it requires purpose. Our theme challenges us to direct creativity and rigor toward solving real-world struggles health inequities, economic fragility, climate vulnerability, and digital exclusion. Empowerment is not charity; it is the co-creation of tools, agency, and resilience with communities, enabling them to shape their own futures. Research must be rooted in deep listening, cultural humility, and collaboration. In an era of complex global challenges, this community-centered approach is not just relevant—it is urgent.

MUSTIC 2025: A Crucible for Change

This conference is designed as a dynamic platform for this vital work. Through pioneering research showcases, panels with community leaders, and interactive workshops, we will explore how interdisciplinary innovation spanning technology, social sciences, environment, and humanities drives measurable empowerment. MUSTIC 2025 is more than a forum: it is a launchpad for partnerships that translate ideas into scalable, sustainable action. Here, academia and community wisdom converge to ignite solutions that uplift.

Our Call to Collective Action

As we begin, I urge every participant: engage boldly. Listen intently to community voices. Seek unconventional collaborations. Ask not only “Is this research novel?” but “Who does this empower, and how?” Together, let’s design research that transforms lives and places agency where it belongs—within communities. The potential here is profound. I am confident that MUSTIC 2025 will spark connections, ideas, and actions that build empowered, resilient futures.

Prof. Romanus Odhiambo, Ph.D.

Vice Chancellor

Meru University of Science and Technology



GUEST LIST

CHIEF GUEST

Dr. Beatrice Inyangala

Principal Secretary - State Department for Higher Education and Research

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KEYNOTE SPEAKERS

H.E. Dr. Roberto Natali

Italian Ambassador

Dr. Narendra Raval (Guru)

Executive Chairman of Devki Group of companies

Hon. Reverend Isaac Mutuma M'Ethingia

The Governor of Meru County Government, Kenya

GUEST SPEAKERS

Professor Dickson Andala

Chief Executive Officer - National Research Fund (NRF).

Professor Caroline Kobia, Ph.D.

Associate Professor Merchandising | Program Leader School of Human Sciences, Mississippi State University

Mr. Njue Njagi Kaithungu

CEC, Agriculture, Tharaka Nithi county

Rev. Bishop Jackson Muragara

Catholic Bishop, Diocese of Meru

Mrs. Koos (j.t) Kingma

Van Hall Larestein University

Mr. Marco (C.M) Verschuur

Van Hall Larestein University, Netherlands

Prof. Ratemo Michieka

Professor and Chairman - National Research Fund (NRF). Chancellor, Tharaka University



Prof. George Mutwiri

Senior scientist at the Vaccine and Infectious Disease Organization – International Vaccine Centre (VIDO-InterVac),
University of Saskatchewan

Dr. Fr. Francis Limo Riwa

The Diocesan Executive Committee Advising the Bishop of Meru

Dr. Kilemi Mwiria

Managing Director, Africa at Education.org

Prof. Michael Goodman

Professor of 'Intelligence and International Affairs' and the Director of the King's Centre for the Study of Intelligence

Prof. Ciira Maina

Associate Professor at Dedan Kimathi University of Technology in Nyeri, Kenya, who specializes in Electrical and
Electronic Engineering

Prof. Peter Muriungi

Vice Chancellor | CEO of Tharaka University (TUN)

Prof. Mary Abukutsa

Professor of Horticulture at Jomo Kenyatta University of Agriculture and Technology

Dr. Lister Onsongo

CEO and Registrar Nursing Council of Kenya

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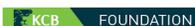
KCB FOUNDATION



SESSION CHAIRS



	PRECONFERENCE	CONFERENCE
Agriculture - Innovations in Sustainable Agriculture for Food Security and Rural Development	Dr. Eric Mworia Dr. Rebecca Ebere	Prof. Joshua Arimi Prof. Gitonga Nkanata
Pure and Applied Sciences - Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions	Dr. Kennedy Gachoka Dr. Daniel Maitethia	Prof. Eustace Mwenda Dr. Julius Ratumo
Business and Economics - Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development	Prof. Mohamed Shano	Prof. Guyo Huka Dr. Matthias Nzomo
Education - Innovative Educational Practices for Sustainable Development and Community Transformation	Dr. Charles Njati	Prof. Kageni Njagi
Health Sciences - Innovative Health Solutions for Global Health Challenges and Community Wellbeing	Dr. Mary Amatu	Prof. Erick Muchiri Dr. Patrick K. Kubai
Nursing - Innovations in Nursing Practice and Community Health for Empowered Populations.	Mr. Samuel Ndere	Dr. MaryJoy Kaimuri Ms. Elizabeth Kathuri
Computing and Informatics - Digital Transformation and Technological Innovations for Community Empowerment	Dr. Zack Chiliswa Dr. Dorothy Bundi	Dr. Beatrice Owiti Dr. Samson Munialo
Engineering - Innovative Engineering and Infrastructure Solutions for Sustainable Communities	Dr. Lucas Mogaka Dr. Lillian Mworia	Dr. Joy Riungu Dr. Vitalis Too



RAPPOORTEURS

	PRECONFERENCE	CONFERENCE
Agriculture - Innovations in Sustainable Agriculture for Food Security and Rural Development	Mr. Joshua Thambura	Dr. Isaac Omwenga Dr. John Thuita
Pure and Applied Sciences - Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions	Dr. Erastus Mwangi Dr. Grace Gakii Dr. Sarah Wandili	Dr. Jacob Okungu Dr. Josephine Mutembei
Business and Economics - Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development	Dr. Gabriel Waweru	Dr. Thiane Kubaison Dr. Agnes Mungania
Education - Innovative Educational Practices for Sustainable Development and Community Transformation	Dr. Tirus Gichuru Dr. Fridah Mwiti	Dr. Mercy Thurania Dr. Angela Kaiberia
Health Sciences - Innovative Health Solutions for Global Health Challenges and Community Wellbeing	Mr. Patrick Mutharia	Dr. Jane Rutto
Nursing - Innovations in Nursing Practice and Community Health for Empowered Populations.	Ms. Caroline Karani Mr. David Murithi	Ms. Millicent Kapigen Mr. Morris Murithi
Computing and Informatics - Digital Transformation and Technological Innovations for Community Empowerment	Mr. David Kibaara Mr. Anthony Irungu	Mr. Mwenda Gichuru Mr. John Ng'ang'a
Engineering - Innovative Engineering and Infrastructure Solutions for Sustainable Communities	Mr. Job Kerosi Mr. Benson Mutuma	Mr. Ben Asiago Ms. Rosemary Mwende



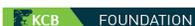
UNIVERSITY MANAGEMENT BOARD

- | | |
|---|--|
| 1. Prof. Romanus Otieno Odhiambo | Vice Chancellor |
| 2. Prof. Hilda Omae | Ag. Deputy Vice Chancellor – Administration,
Finance and Planning |
| 3. Prof. Simon Thurania | Deputy Vice Chancellor – Academic and
Students Affairs |
| 4. Dr. Elijah Walubuka | Registrar – Administration and Planning |
| 5. Dr. Stephen Karanja | Registrar – Academic and Student Affairs |
| 6. Mr. Nephath Njeru | Finance Officer |
| 7. Ms. Sharon Koskei | Ag. Chief Legal Officer |
| 8. Ms. Evelyn Gitonga | Ag. Human Resource Manager |

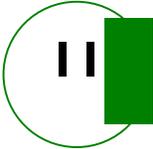


CONFERENCE ORGANIZING COMMITTEE

1. Prof. Amos Omamo	2. Prof. Peter Masinde
3. Dr. Amos Chege	4. Prof. Eric Muchiri
5. Prof. Eustace Mwenda	6. Prof. Mohammed Shano
7. Prof. Guyo Huka	8. Prof. Stephen Mutua
9. Prof. Joshua Arimi	10. Prof. Gitonga Mburugu
11. Dr. Stephen Karanja	12. Dr. Eric Mworira
13. Dr. Joy Riungu	14. Dr. Mwiti Marangu
15. Dr. Daniel Maitethia	16. Ms. Ruth Gibendi
17. Dr. Virginia Wachira	18. Dr. Patrick Kubai
19. Dr. Zakayo Maingi	20. Dr. Cynthia Mugo
21. Dr. Lucas Mogaka	22. Dr. Cyprian Muturia
23. Dr. Alfred Mariga	24. Dr. Beatrice Owiti
25. Dr. Samson Munialo	26. Dr. Lilian Mworira
27. Dr. Kennedy Gachoka	28. Prof. Hilda Nyougo
29. Dr. Maryjoy Kaimuri	30. Dr. Charles Njati
31. Dr. George Mugambi	32. Dr. Mary Mwandulo
33. Dr. Gabriel Waweru	34. Dr. Zachariah Chiliswa
35. Dr. Rebecca Ebere	36. Dr. Mathias Nzomo
37. Dr. Simon Kubaison	38. Dr. Elijah Walubuka
39. Mr. Franco Mutua	40. Mr. Richard Kaimenyi



41. Mr. Fred Mangicho	42. Ms. Evelyn Kiruja
43. Ms. Elizabeth Karimi	44. Mr. Jared Maonga
45. Mr. Michael Ngengya	46. Mr. John Maina
47. Ms. Ann Bonareri	48. Ms. Joyce Mwenja
49. Mr. Francis Njiru	50. Ms. Silvia Kinyamu
51. Mr. Nephath Njeru	52. Eng. Dr. Patrick Kuloba
53. Ms. Amina Karambu	54. Ms. Winnie Tabitha
55. Ms. Susan Mutunga	56. Mr. Rodgers Bosire
57. Ms. Lucy Chwale	58. Mr. Tobias Owino
59. Ms. Lilian Muthee	



THE 4th MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

CONFERENCE ON INNOVATIVE RESEARCH FOR COMMUNITY EMPOWERMENT: Addressing Global Challenges and Sustainable livelihoods

Meru, Kenya
25th to 27th June 2025

VENUE: MAIN CAMPUS, NCHIRU

Conference Sub-themes

Agriculture: Innovations in Sustainable Agriculture for Food Security and Rural Development

Pure and Applied Sciences: Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions

Business and Economics: Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development

Education: Innovative Educational Practices for Sustainable Development and Community Transformation

Health Sciences: Innovative Health Solutions for Global Health Challenges and Community Wellbeing

Nursing: Innovations in Nursing Practice and Community Health for Empowered Populations

Computing and Informatics: Digital Transformation and Technological Innovations for Community Empowerment

Engineering: Innovative Engineering and Infrastructure Solutions for Sustainable Communities

Precision Agriculture



PRE-CONFERENCE AND CONFERENCE PROGRAMME SUMMARY

Date	Time	THEATRE 1	THEATRE 2	THEATRE 3	THEATRE 4
25 th June 2025	08:30-09:30			Pre-conference Opening joint ceremony	
	09:30-16:30	Pre-Conference Presentations by theme <ul style="list-style-type: none"> • Agriculture • Pure and Applied Sciences 	Pre-Conference Presentations by theme <ul style="list-style-type: none"> • Business and Economics • Education 	Pre-Conference Presentations by theme <ul style="list-style-type: none"> • Health Sciences • Nursing 	Pre-Conference Presentations by theme <ul style="list-style-type: none"> • Engineering and Sanitation • Computing & Informatics
	16:30-17:00			Closing Ceremony	
26 th June 2025	09:00-13:00			Opening Ceremony and Presentations	
	14:00-16:00	Parallel Session 1 & 2 <ul style="list-style-type: none"> • Agriculture • Pure and Applied Sciences 	Parallel session 3&4 <ul style="list-style-type: none"> • Business • Education 	Parallel session 5 & 6 <ul style="list-style-type: none"> • Health Sciences • Nursing 	Parallel session 7 & 8 <ul style="list-style-type: none"> • Engineering • Computing & Informatics Parallel session 9 (Venue: Innovation Boardroom) Precision Agriculture
	09:00-16:30	Parallel Session 1 & 2 <ul style="list-style-type: none"> • Agriculture • Pure and Applied Sciences 	Parallel session 3 & 4 <ul style="list-style-type: none"> • Business • Education 	Parallel session 5 & 6 <ul style="list-style-type: none"> • Health Sciences • Nursing 	Parallel session 7 & 8 <ul style="list-style-type: none"> • Engineering • Computing & Informatics
27 th June 2025	16:30			Closing Ceremony	





PRE-CONFERENCE PROGRAMME (SUMMARY) 25th June, 2025 VENUE: ENGINEERING THEATRES									
Time	Event								
08:00 – 08:30	Reception & Registration								
08:30 – 9:15	Opening Remarks – Venue THEATRE 3 Session Chair: Dr. Cynthia Mugo <ul style="list-style-type: none"> • Introduction to the 4th MUST International Conference • Introduction to the Programme • Opening address by the Vice Chancellor - Prof. Romanus Odhiambo 								
9:10-9:30	Keynote Address Prof. Ratemo Michieka - <i>Professor and Chair – National Research Fund</i>								
9:15-17:00	Presentations in Venues (Theatres 1-4) according to respective themes as follows:								
	<table border="0"> <tr> <td style="vertical-align: top;">THEATRE 1</td> <td> Session 1: Agriculture - Innovations in Sustainable Agriculture for Food Security and Rural Development Session 2: Pure and Applied Sciences - Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions </td> </tr> <tr> <td style="vertical-align: top;">THEATRE 2</td> <td> Session 3: Business and Economics - Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development Session 4: Education - Innovative Educational Practices for Sustainable Development and Community Transformation </td> </tr> <tr> <td style="vertical-align: top;">THEATRE 3</td> <td> Session 5: Health Sciences - Innovative Health Solutions for Global Health Challenges and Community Wellbeing Session 6: Nursing - Innovations in Nursing Practice and Community Health for Empowered Populations. </td> </tr> <tr> <td style="vertical-align: top;">THEATRE 4</td> <td> Session 7: Computing and Informatics - Digital Transformation and Technological Innovations for Community Empowerment Session 8: Engineering - Innovative Engineering and Infrastructure Solutions for Sustainable Communities </td> </tr> </table>	THEATRE 1	Session 1: Agriculture - Innovations in Sustainable Agriculture for Food Security and Rural Development Session 2: Pure and Applied Sciences - Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions	THEATRE 2	Session 3: Business and Economics - Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development Session 4: Education - Innovative Educational Practices for Sustainable Development and Community Transformation	THEATRE 3	Session 5: Health Sciences - Innovative Health Solutions for Global Health Challenges and Community Wellbeing Session 6: Nursing - Innovations in Nursing Practice and Community Health for Empowered Populations.	THEATRE 4	Session 7: Computing and Informatics - Digital Transformation and Technological Innovations for Community Empowerment Session 8: Engineering - Innovative Engineering and Infrastructure Solutions for Sustainable Communities
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THEATRE 4	Session 7: Computing and Informatics - Digital Transformation and Technological Innovations for Community Empowerment Session 8: Engineering - Innovative Engineering and Infrastructure Solutions for Sustainable Communities								
17:00	CLOSING CEREMONY (THEATRE 3) Closing address: Deputy Vice Chancellor (Academic and Student Affairs) Prof. Simon Thurania, Ph.D.								
17:15	END OF PRE-CONFERENCE								



PRE-CONFERENCE DETAILED PROGRAMME

VENUE: THEATRE I

PRECONFERENCE, 25TH JUNE 2025

SESSION 1 & 2	
AGRICULTURE & PURE AND APPLIED SCIENCES (Morning session)	
<p>Agriculture - Innovations in Sustainable Agriculture for Food Security and Rural Development Pure and Applied Sciences - Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions</p>	
<p>Chairs Dr. Eric Mworira Dr. Kennedy Gachoka</p>	<p>Rapporteurs Mr. Joshua Thambura Dr. Erastus Mwangi Dr. Grace Gakii</p>
<p>9.30 – 10:30</p>	<p>09:30-9:45 An assessment of nutritional knowledge, attitude, and practice of mothers or caregivers with children under five years and relationship to child nutritional status: addressing global challenges and sustainable livelihood. <i>Josphat Kiplangat Koech Erick Awuoch, Alfred Mugambi Mariga, and Rebecca Ebere</i></p> <p>09:45-10:00 Weakly sign symmetric po-matrix completion problem for patterns of digraphs of order 5 with up to 5 arcs. <i>Joseph Marro</i></p> <p>10:00-10:15 Effect of different sources of pyrolineous acid on tomato plant growth and physiological indices. <i>Ian Orenge, Masinde Peter, Lord Abbey, Cynthia Mugo, and Ofoe Raphael</i></p> <p>10:15-10:30 Discussions</p>
<p>10:30 – 11:00</p>	<p>HEALTH BREAK</p>
<p>11:00 – 13:00</p>	<p>11:00-11:15 Development of a colony rearing procedure for anopheles arabiensis infected with Microsporidia mb. <i>Esther W. Mwaura, David M. Mburu, Kennedy K. Gachoka</i></p> <p>11:20-11:35 The Kikuu river sand dams and sustainable development. <i>Faith G., Kiogora Mworira, Robert Muriungi, Benson Mutuma, Rosemary Matheka</i></p> <p>11:40-11:55 Formulation and physicochemical characterization of antibacterial camel milk cream-based toilet soap. <i>Elly Oginga, Julius Toeri, Eunice Marete, and Joshua Arimi</i></p> <p>12:00-12:15 On Investigation of structure and properties of cyclic codes over finite field $[[GF]]_2$ and application of these codes to cryptography <i>Munjuri Beatrice Gacheri, Loyford Njagi, Josephine Mutembei</i></p> <p>12:20-12:35 Morpho-physiological responses of water leaf (<i>Talinum triangulare. Jacq</i>) plant to urea and azomite. <i>Tabitha Mutemi, Peter Masinde, Richard Kirigiah, Peter Amoako Ofori, Efoo Bawa Nutsukpo, Lord Abbey</i></p> <p>12:40-13:00 Discussions</p>
<p>13:00 – 14:00</p>	<p>HEALTH BREAK</p>

15



VENUE: THEATRE I

PRECONFERENCE, 25TH JUNE 2025

**SESSION 1 & 2:
 AGRICULTURE & PURE AND APPLIED SCIENCES (Afternoon Session)**

Agriculture - Innovations in Sustainable Agriculture for Food Security and Rural Development
Pure and Applied Sciences - Scientific Research and Technological Innovations for Sustainable Environmental and Societal Solutions

Chairs: Dr. Rebecca Ebere
 Dr. Daniel Maitethia
Rapporteurs: Mr. Joshua Thambura
 Dr. Sarah Wandili



14:00-14:15	Comparison of integer-order, constant and variable fractional-order models of student competition using Caputo-fabrizio derivative with policy interventions. <i>Kiprotich Ezra Bett Cyrus Gitonga Ngari Grace Gakii Muthuri</i>
14:20-14:35	Precision agriculture adoption in smallholder vegetable farming systems in developing countries: a review. <i>Moses Njoka</i>
14:40-14:55	Synergistic effects of nanoparticle-enhanced sugarcane bagasse biochar with fly ash, silica fume and slag (SCMS) in hybrid concrete. <i>Duncan Mutuku</i>
15:00-15:15	Modeling of handling and transportation of avocado (<i>Persea americana</i>) for export from Meru county in Kenya. <i>Shelef Bala, Eric Mworira, Peter Masinde, Richard Kirigiah</i>
15:20-15:35	Mathematical modelling for assessing the impact of human papilloma virus vaccination on cervical cancer incidence in Meru county <i>Savio Gitonga Mwenda, Grace Gakii, Josphine Mutembei</i>
15:40-15:55	Harnessing Precision Agriculture Technologies for the Management of Fall Armyworm (Spodoptera frugiperda) in Maize Production Systems. <i>Caroline Ndegwa Wanjiru</i>
16:00-16:15	The Fate of Antibiotic-Resistance Genes and Microbial Community Dynamics during Black Soldier Fly Larvae Bioconversion of Human Faecal Waste <i>Beatrice N. Anyango, Patrick G. Home, James M. Raude, Simon M. Wandera, Moses M. Njire</i>
16:20-16:35	Exploring the use of recycled gypsum in limestone Calcined clay cement (LC3) <i>Brian Mureti Kiogora, Julius Ratumo Toeri, Joseph Mwitii Marangu</i>
16:35-16:50-	Time Series Analysis of Prostate Cancer Incidences in Meru County <i>John Kamau Kamande , Jacob Oketch Okungu and Peter Githinji Murage</i>
16:50-17:00	
CLOSING CEREMONY	



SESSION 3 & 4: EDUCATION & BUSINESS AND ECONOMICS (Morning Session)	
Business and Economics - Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development Education - Innovative Educational Practices for Sustainable Development and Community Transformation	
Chairs: Prof. Mohamed Shano Dr. Charles Njati	
Rapporteurs: Dr. Gabriel Waweru Dr. Tirus Gichuru	
9.30 – 10:30	<p>09:30-09:45 Teachers’ Characteristics that Cause Differentiation in Academic Performance between Public and Private Primary Schools in Igembe North Subcounty, Meru County, Kenya. <i>Janet Mwoburi Maore, Hilda Omae & Mercy Thurania</i></p> <p>09:45-10:00 Proactive strategies for effective implementation of the competency-based curriculum in senior secondary schools in Kenya. <i>Baariu Isaac Mwangi, Ibuathu C. Njati, Simon Thurania</i></p> <p>10:00-10:15 Data Quality of Accounting Information Systems and the Financial Performance of Microfinance Institutions in Meru County. <i>Mukembu Morris Mwenda1* Ithai Julius Waweru Gabriel</i></p> <p>10:15:10:30 Influence of principals’ supervision of instruction on academic performance of students in public secondary schools in Buuri east, Meru county, Kenya. <i>Caroline Ntinyari Mworira Ibuathu Njati</i></p>
10:30-11:00	HEALTH BREAK
11:00 – 12:30	<p>11:00-11:15 Influence of Leadership Practices on School Performance in Public Comprehensive Schools: A Case Study of Head teachers in Isiolo Sub-county, Kenya. <i>Annmarie Mwendwa Kinoti & Ibuathu C. Njati</i></p> <p>11:15-11:30 Financial structure and financial performance of manufacturing firms quoted at Nairobi securities exchange: influence of equity financing on the financial performance of manufacturing firms quoted at the Nairobi Securities Exchange. <i>Kinyua Mercy Makena Nkirote Waweru Gabriel Ithai Julius</i></p> <p>11:0-11:45 Computerized accounting systems and financial performance of insurance companies in Kenya. <i>Paul Omondi Ogola, Halldess Nguta Munene, Mohamed Shano</i></p> <p>11:45-12:00 Motivation and instruction in English composition among public primary pupils in Igembe central, Kenya. <i>Nyaga W Florence, Kageni Njagi , Mercy Thurania</i></p> <p>12:00-12:15 Assistance Programs and Employee Performance of Public Universities in Mount Kenya East. <i>Muriuki Agnes Kinya, Mungania Agnes Kinanu, Kariuki Ann Njeri</i></p> <p>12:15-12:30 Principals’ Role in Enhancing Student Academic achievement through Teachers Involvement. <i>Murithi David Mugambi, Ibuathu C. Njati and Simon Thurania</i></p> <p>12:40-13:00 Discussions</p>
13:00 – 14:00	HEALTH BREAK



SESSION 3 & 4:
EDUCATION & BUSINESS AND ECONOMICS (Afternoon Session)

Business and Economics - Entrepreneurship and Innovation for Economic Empowerment and Sustainable Development
Education - Innovative Educational Practices for Sustainable Development and Community Transformation

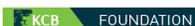
Chairs: Prof. Mohamed Shano
 Dr. Charles Njati

Rapporteurs: Dr. Gabriel Waweru
 Dr. Fridah Mwiti

14:00-16:30	14:00-14:15	The assessment of the impact of parents association in governance of public primary school in Tigania West, Kenya: a case study of assessment of the impact of parent association of public primary schools in Tigania West Subcounty, Kenya <i>Charles Mung'athia Mugambi and Ibuathu C. Njati</i>
	14:15-14:30	Influence of parental participation in school management on academic performance in catholic-owned schools. <i>Rebecca Mwonjiru and Ibuathu C Njati, Gitari Gathuru</i>
	14:30-14:45	Influence of school physical resources on implementation of competency-based curriculum in junior schools in North Imenti. <i>Christabel Wegoki Ileri, Kageni Njagi, Ibuathi C. Njati</i>
	14:45-15:00	The impact of teachers' attitudes towards technology on teaching public secondary schools in Tigania West, Meru county, Kenya. <i>Nancy Mukiri Ngaya, Hilda Omae, Mercy Thuranira</i>
	15:00-15:15	Evaluation of information and communication technologies in optimizing administrative and pedagogical management within day secondary school systems. <i>Joseph W. Kimani, Fridah Kathambi, Ibuathu C. Njati</i>
	15:15-15:30	Demystifying gender imbalance in stem enrolment among Kenyan university students. <i>Joseph W. Kimani, Ibuathu C. Njati, Simon Thuranira</i>
	15:30-15:45	A critical review on how socio-economic status drive competency based curriculum success. <i>Faith Makena, Mercy Thuranira, Fridah Kathambi</i>
	15:45-16:00	Influence of audit committee on the financial performance of deposit taking SACCOS, in Meru county. <i>Eva Kanini Tharamba, Gabriel Waweru, Mohammed Shano</i>
	16:00-16:15	Assessment of secondary school principals' administrative approaches on learners' discipline <i>Kalaine Titus Thiaine, Ibuathu C. Njati</i>
	16:15-16:30	Understanding Dialogic Communication in Community Development: Perceptions and Practices among Community-Based Organizations in Kenya. <i>Ruth Kendagor</i>
	16:30-16:45	Participation of visually impaired learners in learning in public special junior schools. <i>Kalunge David and Ibuathu C Njati</i>
	16:45-17:00	A review article on the influence of public secondary schools' education subsidy on students' retention. <i>Mary Nthenya Ileri Mercy Thuranira Tirus Mutwiri Gichuru</i>

17:00-17:15 Discussions

CLOSING CEREMONY



SESSION 5 & 6	
HEALTH SCIENCES & NURSING (Morning Session)	
Health Sciences: Innovative Health Solutions for Global Health Challenges and Community Wellbeing	
Nursing: Innovations in Nursing Practice and Community Health for Empowered Populations	
Chairs: Dr. Mary Amatu Mr. Samuel Ndere	
Rapporteurs: Mr. Patrick Mutharia Ms. Caroline Karani	
9.30 – 10:10	<p>09:30-9:45 Assessment of Healthcare professionals’ skills in pain management in Meru Teaching and Referral Hospital and St Teresa Mission Hospital Kiirua . <i>Paulyne Truphena Wanzallah, Peter Ntoiti Kailemia, Mary Joy Kaimuri</i></p> <p>09:45-10:00 The unseen burden of Tinea capitis infection in primary school going children in Tigania west : prevalence characterization and risk factors associated with Tinea capitis. <i>Muiruri J, Munyiri A, Erick K., Pamillyine M, Mutunga P.J, Kubai P.K, Thurania S.T</i></p> <p>10:00-10:15 Examining the link between malnutrition and life quality in chemotherapy patients Meru teaching and referral hospital, Meru county, Kenya. <i>Kabuku K. L, Kubai P.K, Mburugu Kei, Thurania S.T</i></p> <p>10:15-10:30 Climate change and agrochemical use trends among fresh produce farmers in Nakuru county, Kenya. <i>Kirongo David Kihara1, Patrick Kubai , Jane Rutto and Thurania S. T</i></p>
10:30 – 11:00	HEALTH BREAK
11:00 – 13:00	<p>11:00-11:15 Ethnobotanical and Epidemiological Assessment of Herbal Remedies for Zoonotic Disease Management in Laisamis Sub-County, Marsabit County, Kenya. <i>Mamo Wako</i></p> <p>11:15-11:30 Hand to harm; prevalence of Escherichia coli and Pseudomonas spp. Contamination on toilet door handles in learning institutions in Nchiru, Meru county. <i>Zainab W., Francis.M.W., Patrick. M. N.</i></p> <p>11:30-11:45 Effective use of electronic health records in tuberculosis surveillance: a survey of Tigania east sub-county, Meru county, Kenya <i>Mercy Chepkoech Tonui, , Patrick Kinyua Kubai, Amos Chege Kirongo</i></p> <p>11:45-12:00 The assessment of selected laboratory quality management essentials in the haematology department at Meru teaching and referral hospital: selected laboratory quality management essentials in the haematology department. <i>Ian Muthomi Rugendo</i></p> <p>12:00-12:15 The assessment of the role of community health promoters in hypertension care in Imenti North sub county: role of community health promoters in hypertension care <i>Vincent Mukundi</i></p> <p>12:15-12:30 Exploring childbirth experiences among adolescents in Imenti South Sub County: Childbirth experiences. <i>Jacqueline Gatabi Manene, Maryjoy Kaimuri, Peter Kailemia</i></p> <p>12:30-12:45 The barriers to effective prosthetic and orthotic service delivery: challenges in quality rehabilitation care in Meru county, Kenya. <i>Mirithu Julius Nkinyili., Mutema Alfred Mwongera1, Muchiri Eric Muchiri., Kubai Patrick</i></p> <p>12:45-13:00 Discussions</p>
13:00 -14:00	HEALTH BREAK



VENUE: THEATRE 3

PRECONFERENCE, 25TH JUNE 2025

SESSION 5 & 6
HEALTH SCIENCES & NURSING (Afternoon Session)

Health Sciences: Innovative Health Solutions for Global Health Challenges and Community Wellbeing

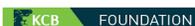
Nursing: Innovations in Nursing Practice and Community Health for Empowered Populations

Chairs: Dr. Mary Amatu
 Mr. Samuel Ndere

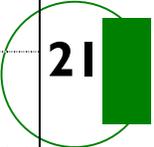
Rapporteurs: Mr. Patrick Mutharia
 Ms. David Murithi

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14:00 – 16:45	14:00-14:15	The programmatic evaluation of Linda mama healthcare financing program - a case study in Nyambene sub-county hospital: Linda mama healthcare financing program. <i>Monica Maina</i>
	14:15-14:30	Assessment of Psychosocial Needs of Patients with Prostate Cancer Attending Meru and Embu Cancer Centers, Kenya <i>Monicah Kiraki, Catherine Gichunge, Koome Ipwii</i>
	14:30-14:45	Assessment of mental health inequities and access to mental health services in Samburu east sub-county, Kenya. <i>Lekilit Jacob</i>
	14:45-15:00	The integrated community-based innovations for sustainable livelihoods: bridging health, environment, and technology to address global challenges in rural Kenya: cross-sectoral innovations in community empowerment for sustainable development. <i>Amos Mutinda</i>
	15:00-15:15	Discussions
	15:15-15:30	Genetic predisposition to non-communicable diseases: a public health perspective. <i>Linet Makandi</i>
	15:30-15:45	Practices on menstrual waste management among girls aged 9 to 17 years in Mathioya sub-county, Murang'a county <i>Nyarenchi Bosibori Janet, Josephine Mutembei, Mary Amatu</i>
	15:45-16:00	Determinants of high blood pressure management among patients experiencing stroke: a case of Meru Teaching and Referral Hospital. <i>Purity Kathambi Mathiu, Maryjoy Kaimuri and Peter Kailemia</i>
	16:00-16:15	The assessment of tuberculosis prophylactic program uptake among healthcare workers at Meru teaching and referral hospital: <i>Lilian Kinya Kinyua</i>
	16:15-16:30	Utilization of mobile health applications for infectious disease monitoring among healthcare workers in Meru county, Kenya. <i>Tanui Sharon Chemutai, Patrick Kubai, Amos Omamo</i>
	1630:16:45	Discussions
CLOSING CEREMONY		



SESSION 7 & 8	
ENGINEERING & ICT (Morning Session)	
<p>Computing and Informatics: Digital Transformation and Technological Innovations for Community Empowerment Engineering: Innovative Engineering and Infrastructure Solutions for Sustainable Communities</p>	
<p>Chairs: Dr. Zack Chiliswa Dr. Lucas Mogaka</p> <p>Rapporteurs: Mr. David Kibaara Mr. Job Kerosi</p>	
9:30– 12:00	<p>09:30-09:45 Knowledge, attitudes, and practices associated with access to selected public toilets - a case of Nairobi city. <i>Beverly Brenda, Muchiri Eric, Kagendo Dorothy</i></p> <p>09:45-10:00 A deep learning approach for depression detection from social media: digital transformation and technological innovations for community empowerment. <i>Ngetich Kipkorir Shadrack, Amos Chege, Samson Wanjala Munialo</i></p> <p>10:00-10:15 Assessment of health risk associated with sanitation service chain. A case study of Iten municipality, Kenya <i>Cynthia Kiprop, Rutto Jane, Kagendo Dorothy</i></p> <p>10:15-10:30 Machine learning technique based on optical character recognition for automated reading of analog meters: machine learning technique based on optical character recognition for automated reading of analog meters <i>Ayub Gitonga, Daniel Maitethia Memeu</i></p> <p style="text-align: center;">HEALTH BREAK</p> <p>11:00-11:15 The assessment of shallow well water quality in relation to well distance from the pit latrine a case study of Moiben sub-county, Uasin-gishu county. <i>Leah Wangari Wang'ondou, Erastus Mwangi</i></p> <p>11:15-11:30 An AI-driven circular economy model for e-waste sorting using explainable AI (XAI) with adaptive learning. <i>Manason Amoko, Amos Omamo, Samson Munialo</i></p> <p>11:30-11:45 Influence of social factors on management of faecal matter in arid and semi-arid areas: a case of Isiolo sub -county, Kenya <i>Julius Kirimi , Kirimi Lilian Mukiri , Kirema Nkanata Mburugu , Kipngeno Aaron</i></p> <p>11:45-12:00 Research enhanced security monitoring in internet of things systems through intrusion detection model. <i>Gitonga J. Imathiu, Amos Omamo2 & Amos Chege Kirongo</i></p> <p>12:00-12:15 The influence of water, sanitation, and hygiene practices on diarrhoeal diseases in children under five years of age in Westlands sub-county, Nairobi county, Kenya <i>Margaret Kathambi Sunguti, Mary Amatu, Leunita Sumba</i></p> <p>12:15-12:30 Robust number plate recognition using Yolov10 and PaddleOCR under simulated adverse weather conditions: artificial intelligence and computer vision in smart mobility systems. <i>Eugene Murithi, Mutembe K. Mwaki , Daniel Maitethia Memeu</i></p> <p>12:30-12:45 The assessment of the relationship between sanitation practices and quality of drinking water in rural households of Kajiado west sub-county, Kenya <i>Bernadett Wairimu Njoroge, Vitalis Too, Cynthia Mugo</i></p>
12:45-13:00	Discussion
13:00	HEALTH BREAK



SESSION 7 & 8
ENGINEERING AND ICT (Afternoon Session)

Computing and Informatics: Digital Transformation and Technological Innovations for Community Empowerment
Engineering: Innovative Engineering and Infrastructure Solutions for Sustainable Communities

Chairs: Dr. Dorothy Bundi
 Dr. Lilian Mworira

Rapporteurs: Mr. Anthony Irungu
 Mr. Benson Mutuma



14:00-16:45	<p>14:00-14:15 Compressive strength of limestone calcined clay cement (LC3) in biogenic sulfuric acid-exposed concrete septic tanks. <i>Simon Irungu Gachie, Jacob Tsuma Makanga, Ann Carol Karanja</i></p> <p>14:15-14:30 An AI-powered virtual examination system for automated question generation and evaluation <i>Victoria Muthee, Brian Muriuki, Daniel Maitethia Memeu</i></p> <p>14:30-14:45 Influence of economic factors on access to safe sanitation in pastoral communities: a case of Saku sub-county, Marsabit, Kenya <i>Marcus Labaru Chichia, Lilian Mukiri Kirimi, Jane Kawira Mberia, Grace Kasiva Eliud</i></p> <p>14:45-15:00 Economic barriers and enablers in managing shared sanitation in Nakuru town west slums, Kenya <i>Kipngeno Aaron, Patrick Kubai, Josephine Mutembe</i></p> <p>15:00-15:15 Transformer deep neural networks in detecting vulnerabilities in web software: a review <i>Emily Gakii Murerwa, Makau Mutua, Samson Munialo</i></p> <p>15:15-15:30 Assessment of borehole and shallow well water quality in Nchiru location, Meru county.: water quality assessment <i>Laban Mirkoro</i></p> <p>15:30-15:45 An effective cloud-based ensemble learning system for coronary artery disease risk prediction in low-resource settings: digital transformation and technological innovations for community empowerment. <i>Gikabu Catherine Kinya, Samson Munialo, Amos Chege Kirongo</i></p> <p>15:45-16:00 Influence of hygiene practices on latrine use in Imenti north sub-county, Meru county, Kenya <i>Joy Gitonga, Kubai Patrick Kinyua, Stephen Karanja</i></p> <p>16:00-16:15 Adaptive concept drift detection technique for glucose monitoring in diabetic patients. <i>David Mwangi Wachira, Mary Mwadulo, Amos Chege</i></p> <p>16:15-16:30 Influence of sanitation coping strategies on raw sewage disposal in water sources: a case study of Mukuru slums, Nairobi county, Kenya. <i>Nasirumbi Audrey, Kubai Patrick, Kagendo Dorothy, Simon Thurania</i></p> <p>16:30-16:45 Influence of health information systems on management of Health Products and Technologies in selected Counties, Kenya. <i>Shadrack Mururu Meme, Carol Kawila and Kezia Njoroge</i></p> <p>16:45-17:00 Discussions</p>
17:00	CLOSING CEREMONY



CONFERENCE PROGRAMME (SUMMARY)

	TIME	DAY 1 --26 TH June 2025	DAY 2- 27 th June, 2025	VENUE
	08:00 – 08:30	Reception & Registration		
THEATRE 3	8.30-13:00	Opening Ceremony – Venue: Theatre 3 <ul style="list-style-type: none"> Introduction to the 4TH MUST International Conference (MUSTIC) Opening address by Prof. Romanus Odhiambo – Vice Chancellor, MUST Official Opening by Chief Guest: Dr. Beatrice Muganda Inyangala Principal Secretary, State Department for Higher Education and Research Key Presentations 	Session 5 : Pure and Applied Sciences (8)	23
	14:00-16:30	Session 1 & 2: Agriculture & Pure and Applied Sciences	CLOSING CEREMONY	
THEATRE 2	09:00-13:00		Session 3 & 4: Business & Education	THEATRE 2
	14:00-16:30	Session 3 & 4: Business & Education		
THEATRE 1	09:00-13:00		Session 5 & 6: Computer Sciences & Engineering and Sanitation	THEATRE 1
	14:00-16:45	Session 5 & 6: Computer Sciences & Engineering and Sanitation		
THEATRE 4	09:00-13:00		Session 7 & 8: Health Sciences & Nursing)	THEATRE 4
	14:00-16:45	Session 7 & 8: Health Sciences & Nursing		
INNOV. BD ROOM	09:00-13:00		Session 9: Precision Agriculture – Breakout	INNOVATION BOARD ROOM
	14:00-16:45	Session 9: Precision Agriculture – Breakout		



VENUE: THEATRE 3

CONFERENCE, 26TH JUNE 2025

CONFERENCE OPENING CEREMONY

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Time	Event				
08:30 – 9:00	Reception & Registration				
9:00 – 9:30	HEALTH BREAK				
9.30 – 12:00	<p>Opening Ceremony Session Chair: Prof. Simon Thurania</p> <ul style="list-style-type: none"> • Opening Ceremony • Kenya National Anthem, East African Anthem and the Italian Anthem • Opening Prayer – Rev. Bishop Jackson Muragara, Bishop Catholic Diocese of Meru. • Introduction to the Meru University International Conference (MUSTIC 2025) – Prof. Amos Omamo • Introduction to the Programme – Dr. Stephen Karanja • Remarks from DVC AFP, DVC ARSA, Invited Guests & Sponsors • Remarks by Prof. Romanus Odhiambo – Vice Chancellor, MUST • Remarks from the University Council – The Chair of Academics & Council Chair • Remarks from Hon. Reverend Isaac Mutuma M'Ethingia - The Governor of Meru County Government, Kenya • Official Opening by Chief Guest: Dr. Beatrice Muganda Inyangala Principal Secretary, State Department for Higher Education and Research 				
JOINT SESSION PRESENTATIONS					
Chair –Dr. Stephen Karanja Co-Chair: Prof. Amos Omamo					
12:00-1:00	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">12:00-12:30</td> <td>Keynote Speaker: H.E. Dr. Roberto Natali - Italian Ambassador in Kenya.</td> </tr> <tr> <td style="text-align: center;">12:30-13:00</td> <td>Keynote Speaker: Dr. Narendra Raval (Guru) - Executive Chairman of Devki Group of companies</td> </tr> </table>	12:00-12:30	Keynote Speaker: H.E. Dr. Roberto Natali - Italian Ambassador in Kenya.	12:30-13:00	Keynote Speaker: Dr. Narendra Raval (Guru) - Executive Chairman of Devki Group of companies
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12:30-13:00	Keynote Speaker: Dr. Narendra Raval (Guru) - Executive Chairman of Devki Group of companies				
13:00	HEALTH BREAK				



PARALLEL SESSIONS

VENUE: THEATRE I

CONFERENCE, 26TH JUNE 2025

PARALLEL SESSION 1 & 2		
THEMES 1 & 2: AGRICULTURE & PURE AND APPLIED SCIENCES		
		<p>Subtheme 1:</p> <p>Subtheme 2:</p>
14.00 - 16.00	14:00-14:30	Keynote: Participatory pathways: The power of participatory methodology for building resilient communities. Experiences from East Africa. by Koos Kingma
	14:30-15:00	Keynote: Food Loss Reduction through Cooperative Development in Living Labs. Case of Kenyan Avocado Farmers' Cooperative Societies in FORQLAB. Marco Verschuur, Peter Bouma
	15:00-15:15	Seeds of Pollution: Tracing Microplastics in Compost-Amended Agricultural Soils in Embu, Kenya <i>Joanne Atieno Ogunah</i>
	15:20-15:35	Alternative Environmentally Benign Extraction Solvent: Supercritical Carbon Dioxide <i>John Kiratu</i>
	15:40- 15:55	Fracture Toughness and Durability of Fly Ash-Based Cementitious Composites: A Comprehensive Review <i>Nancy Mweni Paul, Genson Murithi, Jackson Wachira Muthengia</i>
	16:00-16:15	Evaluating Effectiveness of Sugarcane Waste Biochar in the Purification of Greywater. <i>Victor Mugambi, Vitalis Too and George N Mungai</i>
	16:20-16:35	First Report of Tomato Leaf Curl-Related Begomoviruses Infecting Bottle Gourd (<i>Lagenaria siceraria</i>) in Kenya: Evidence of Recombination and Expanded Host Range <i>Kimathi Harun Ringeera, Yutaro Neriya, Tomohide Natsuaki, Elijah M. Ateka Cynthia M. Mwenda, Hisashi Nishigawa</i>
16:35-17:00	Discussion	
DAY BREAK		

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Session Chairs:
Prof. Joshua Arimi

Prof. Eustace Mwenda

Rapporteurs
Dr. Isaac Omwenga

Dr. Jacob Okungu



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PARALLEL SESSION 1 & 2			
THEMES 1 & 2: AGRICULTURE & PURE AND APPLIED SCIENCES			
8:30 – 10:00	09:00-09:30	Guest Speaker: Prof. Dickson Andala CEO – National Research Fund (NRF)	Session Chairs: Prof. Gitonga Nkanata Dr. Julius Ratumo Rapporteurs Dr. Isaac Omwenga Dr. Jacob Okungu
	09:30- 09:45	Effects of partial replacement of fish meal with black soldier fly larvae on growth performance of Nile Tilapia (<i>Oreochromis niloticus</i>). <i>George Mungania, Anne Wambugu, Joy Riungu,, James Kirimi, and Stephen Karanja</i>	
	09:50– 10:05	Optimization of Black Soldier Fly (<i>Hermetia Illucens</i>) Production for Organic Waste Management in a Small-scale Institutional Facility. <i>Elizabeth Karimi Riungu Nyawira Joy.,Gachoka, Kennedy.</i>	
	10:05 – 10:20	Low-Cost Digital Telepathology Workflow for Cancer Diagnosis Using OpenFlexure Microscopy and AI Integration in Kenya <i>Caroline Gakii, Ezekiel Otieno, Patrick Kubai, Geoffrey Koome, Job Mwale, Maureen Waithaka, Leah Obossy, James Magiri, Doris Ntinyari3, Samson Munialo, Daniel Maitethia</i>	
	10:20-10: 30	Discussion	
10:30 – 11:00	HEALTH BREAK		
11:00 – 12:00	11:00 – 11:30	Keynote Speaker: Prof. Mary Abukutsa. Professor of Horticulture at Jomo Kenyatta University of Agriculture and Technology	Chairs Prof. Gitonga Nkanata Dr. Julius Ratumo Rapporteurs Dr. John Thuita Dr. Josephine Mutembei
	11:30-11:45	Characterization of Insecticidal Properties of Organic Extracts from Two Invasive Plant Species on <i>Sitophilus zeamais</i> . <i>Stephen M. Gitahi , Charles M. Warui, and Benson M. Mwangi</i>	
	11:45-12:00	Food security assessment in agro-ecological zones of Meru county, Kenya. <i>Joshua Mbaabu Thambura, Rebecca Ebere</i>	
	12:00-12:15	Cash crop production: a blessing or a curse to household food security in Bungoma county, Kenya: Cash crop production and household food security and nutrition in Bungoma County. <i>Gladys Victoria Khisa</i>	
	12:15-12:30	Galvanizing Household Food Security Post-Harvest: A Gender Perspective of Practices from the Drylands of the Global South. <i>Ezekiel Mbitha Mwenzwa</i>	
12:30:13:00	Discussion		
13:00-14:00	HEALTH BREAK		
	14:00-14:30	CBC The inter-relationships between community-based conservation governance arrangements and lion conservation in Amboseli ecosystem, Kenya: community-based lion conservation governance. <i>Margaret Wangui Muriuki, Thuita Thenya and Jane Mutheu Mutune</i>	Chairs Prof. Gitonga Nkanata Dr. Julius Ratumo



14:35-14:50	A Infrastructure-Led Innovations in Agriculture: Linking Road Access, Agricultural Diversification, and Food Security for Rural Development <i>Stellah Kainda Riunguh</i>	Rapporteurs Dr. John Thuita Dr. Josephine Mutembei
14:50-15:05	Effect of Cu ²⁺ ions on structural, optoelectronic, and morphological properties of black titanium dioxide prepared by modified sol-gel method. <i>Dorah Kawira Muthee , Francis Birhanu Dejene , Lawrence Kioko Munguti</i>	
15:05-15:20	Phytometabolites Profile, Oviposition Deterrence, and F1 Progeny Emergence Inhibition Potential of Organic Extracts of Invasive Plant Species on <i>Sitophilus zeamais</i> . <i>Stephen M. Gitahi , Charles M. Warui, and Benson M. Mwangi</i>	
15:20-15:35	Low-cost digital telepathology workflow for cancer diagnosis using Openflexure microscopy and AI integration in Kenya	
15:35-15:50	A Review of Advanced Techniques for Removing Micropollutants from Wastewater <i>Robin Simiyu, Genson Muriithi</i>	
15:50-16:05	Mathematical modeling of the effects of screening and treatment of gastric ulcers as a control strategy for gastric cancer: scientific research and technological innovations for sustainable environmental and societal solutions. <i>Glory Kawira Mutua, Musyoka Kinyili, Dominic Makaa Kitavi.</i>	
16:05-16:30	Discussion	
13:00-14:00	CLOSING CEREMONY	



PARALLEL SESSION 3 AND 4

THEMES 3 & 4: BUSINESS AND ECONOMICS & EDUCATION

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14.00 – 16.30	14:00-14:30	Guest Speaker: Prof. Caroline Kobia <i>Mississippi State University</i>	Session Chairs Dr. Matthias Nzomo Prof. Kageni Njagi Rapporteurs Dr. Agnes Mungania Dr. Angela Kaiberia
	14:30-14:45	Influence of financial accessibility on the financial performance of small and medium-sized enterprises (SMEs) in Kenya: a systematic review. <i>Cecilia Ndunge Waweru, Gabriel Waweru, Shano Mohammed</i>	
	14:45-15:00	The parental involvement in the implementation of environmental education in pre-primary and lower primary schools in Kenya: <i>Mercy Nkatha Thurania & Tirus Mutwiri Gichuru</i>	
	15:00-15:15	Tahakiki ya usimilisho wa tenzi za kale kuwa fasihi ya watoto. Mitambo Evangeline Makena, <i>Dorcas M. Musyimi and Allan Mugambi</i>	
	15:15- 15:30	Junior Secondary School Curriculum Implementation and Teacher Training Challenges. <i>Esther Wabera, Simon Thurania, Peter Rugano</i>	
	15:30-15:45	Factors Affecting a Firm’s Operational Ability to Ward Off Import and Export Challenges. <i>David Kiarie Mburu</i>	
	15:45-16:00	Alignment of a Diploma in Pharmacy Curriculum at a Medical Training College in Kenya with the Harden’s Ten Question’s Framework: An Online Population Survey among Faculty Members and Students. <i>Caroline Adhiambo Awuor Babu, Elizabeth Kemigisha, Dennis Kithinji</i>	
	16:00-16:15	Sustainability of affordable housing programs in Kenya <i>Karambu Kiende Gatimbu</i>	
	16:15-16:30	A socio-political assessment of ‘Okolea’ (rescue) programme as a sustainable development model for community development in Meru county (move to education) <i>John Kimathi Nkanatha, and Robert Mangati Kaberia,</i>	
	16:30-16:45	Influence of Endowment funds mobilization on financial sustainability of Universities in Kenya. <i>Humphrey Mwenda Murugu, Clemence Omanwa and Wilson Muema</i>	
	16:45-17:00	Learning delivery models and student perception in higher education: a case study of TVET students at MUST. <i>Simon Thiane</i>	
17:00-17:15	Discussion		
DAY BREAK			



PARALLEL SESSION 3 and 4			
	THEMES 3 & 4: BUSINESS AND ECONOMICS & EDUCATION		
9:00 – 10:00	08:30-08:45	Relationship Between Good Record Management Practices and the Dispensation of Justice at Meru Law Courts, Kenya <i>Paul Mutethia Diki, Mwendwa Mildred Zipporah, Simon Thurania</i>	
	08:45-09:00	The Impact of Apiculture Entrepreneurship on Environmental Conservation in Meru County, Kenya. <i>Anthony Muriungi, Ignatius Gichana and Washington Kipruto</i>	
	09:00 - 09:25	Keynote Speaker: Prof. Peter Muriungi Vice Chancellor/CEO of Tharaka University (TUN)	
	09:30 - 09:45	Investment in Technology enhanced Learning and financial sustainability of Universities in Kenya. <i>Humphrey Mwenda Murugu, Wilson Muema, Clemence Omanwa</i>	
	09:45– 10:00	Moderating Effect of Legislation on Relationship between Social Inclusion in Cooperative Governance and Financial Performance of Agricultural Cooperatives in Kenya. <i>Victor M. Wambua, Kennedy Waweru, Charles K. Wambu</i>	
	10:00-10:15	Policy Innovations for Integrating social Community Voices in Educational Planning for Sustainability in Kenya. <i>Elphas Luvaso</i>	
10:15– 10: 30	Discussions		
10:30 – 11:00	HEALTH BREAK		
11:00 – 12:30	11:00 – 11:15	Transitivity in courtroom interpreting: insights from Dholuo-English contexts in Kenya. <i>Beatrice Owiti</i>	
	11:20-11:35	Mobile learning innovations for sustainability education in underserved communities in Kenya. <i>Elphas Aliva Luvaso</i>	
	11:40-11:55	A "Bridging the Gap: Exploring Community Awareness and Support for Inclusive Education in Gasabo District, Rwanda. <i>Jean Paul Muhire Martha Nduta Kiarie and Denis Okemwa</i>	
	12:00-12:15	The Moderating Role of Top Management Characteristics on the Relationship between Management Development Practices and Service Delivery in Higher Learning Institutions: Evidence from Kenyan Public Universities <i>Erick Nyakundi Onsongo</i>	
	12:20-12:35	Moderating Effect of Legislation on Relationship between Membership Diversity and Financial Performance of Agricultural Cooperatives in Kenya. <i>Victor M. Wambua, Kennedy Waweru, Charles K. Wambu</i>	
12:40-13:00	Discussions		
13:00 – 14:00	HEALTH BREAK		
	14:00-14:15	Ageing Well in the Rural Place Environment: 'The Aging in	Session Chairs

Session Chairs
Dr. Matthias Nzomo
Prof. Kageni Njagi

Rapporteurs
Dr. Agnes Mungania
Dr. Angela Kaiberia



4th MUST International Conference on
INNOVATIVE RESEARCH FOR COMMUNITY EMPOWERMENT
 Meru, 25th to 27th June 2025



	Place' Climatic Challenge. <i>Angela Kanini</i>	Prof. Guyo Huka Prof. Kageni Njagi
14:15-14:30	The Influence of job characteristics on knowledge sharing in public and private chartered universities in Kenya <i>Rosemary Murithi Muriiki, Guyo huka, Agnes Mungania</i>	
14:30-14:45	Potential Historical Origins of Tribalism in Multiparty Democracy in Africa (1963-2003): A Comparative Analysis of Kenya and Tanzania. <i>Joseph Gitari</i>	Rapporteurs Dr. Thiane Kubaison Dr. Mercy Thuranira
14:45-15:00	Impact of camel milk value chain development on human resource empowerment among pastoralist communities in Kenya. <i>Haron Lekartiwa, Guyo Saar Huka, Joshua Arimi</i>	
15:00-15:15	The Place of Technology in Addressing Corruption in Africa: A reading of John Lara's play, The Samaritan. <i>Purity Wanja</i>	
15:15-15:30	Teacher Education community service learning as an enabler of teacher mentorship programmes. <i>Ibuathu C. Njati, Simon Thuranira, Tirus M. Gichuru</i>	
15:30-15:45	The Impact of Attitudes on Workplace Dynamics and Mental Health. <i>Thuranira S, T Kinoti E. Kithuri, Dr. Kubai P.K</i>	
15:45-16:00	Leveraging Vernacular Media for Cancer Prevention-Promotion in Culturally Diverse Communities <i>Mildred Mwendwa and Paul Mutethia Diki</i>	
16:00-16:15	The Impact of Academic and Administrative Leadership style on the of the University Staff and Students' Holistic Mental well-being: leadership style, academic administrative managers, staff and student holistic well being. <i>Thuranira S, T. Murithi, David Mugambi, Kinoti E. Kithuri, Ibuathu C Njati, Kubai P.K</i>	
16:15-16:30	Discussions	
16:30	CLOSING CEREMONY (THEATRE 3)	



PARALLEL SESSION 5 AND 6	
THEMES 5 & 6: NURSING & HEALTH SCIENCES	
14.00 – 16.10	14:00-14:30 Keynote Speaker: Prof. Michael Goodman <i>Professor of 'Intelligence and International Affairs' and the Director of the King's Centre for the Study of Intelligence</i>
	14:30-15:00 Keynote Speaker: Prof. George Mutwiri <i>Senior scientist at the Vaccine and Infectious Disease Organization – International Vaccine Centre (VIDO-InterVac), University of Saskatchewan</i>
	15:00-15:15 Innovative research for combating visceral leishmaniasis in Kenya: promoting interdisciplinary collaboration for sustainable solutions in surveillance, treatment, and vector control. <i>Victor Mwiti Marangu, Eric M. Muchiri, Dorothy K. Kithinji</i>
	15:20-15:35 Assessment of factors influencing outcome of drug-resistant tuberculosis treatment among patients enrolled in Meru county, Kenya <i>Muthuri Geoffrey Koome, Patrick K. Kubai, Dorothy Kagendo</i>
	15:40- 15:55 Assessment of Healthcare-Related Factors Influencing Health outcomes in Traumatic Brain Injuries among Patients at MeTRH. <i>Faith Kinya , MaryJoy Kaimuri, Peter Kailemia</i>
	16:00-16:15 Determinant of Severe Acute Malnutrition among children Age 6-59 Months, Kenya, Marsabit County. <i>Benedict Natuwaki, Patrick Kubai, Dorothy Kagendo</i>
	16:15-16:30 Collaborative Implementation of a Standardized Transfer Protocol: Engaging Stakeholders for Change. <i>Susan Maynard (virtual)</i>
	16:30-16:45 Risk factors associated with malnutrition in children below five years in Kajiado county, Kenya. <i>Esther Wanjiru Karanja, Kubai Patrick, Mary Amatu</i>
	16:45-17:00 The Factors Influencing HPV vaccination uptake among caregivers of adolescent girls in the pastoralist community of Garbatulla Sub County, Isiolo County, Kenya. <i>Sabla Galgalo Kubi Kubi, Mary Joy Kaimuri, Jane Rutto</i>
	17:00-17:15 Assessment of water quality and associated health risks in Buuri east sub-county, Meru county, Kenya: <i>Joseph Kathurima Muite, Annanias Njagi Nkonge, Jane Jemeli Rutto</i>
17:15-17:30 The prevalence and factors associated with multi drug resistant e. Coli causing urinary tract infections among women in Nyambene hospital and meru level five hospital, Kenya. <i>Cleophas Kimanthi Mbogo</i>	
17:15-17:30	Discussion
DAY BREAK	



VENUE: THEATRE 3

CONFERENCE, 27TH JUNE 2025

PARALLEL SESSION 5 & 6: THEATRE 3

THEMES 5 & 6: NURSING AND HEALTH SCIENCES

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9:00 – 10:00	08:30-08:45	Determinants of the prevalence of Schistosomiasis in humans in Tharaka County, Kenya. <i>Jared Ombuya, Dorothy Kagendo, Eric Muchiri, Jane Ruto, Joy Riungu.</i>	Session Chairs Prof. Eric Muchiri Dr. MaryJoy Kaimuri Rapporteurs Dr. Jane Rutto Ms. Millicent Kapigen
	08:45-09:00	Dietary diversity and nutritional status of preschool children in Kitui county, Kenya. <i>Jane Mbijiwe</i>	
	09:00 - 09:20	Guest Speaker: Dr. Lister Onsongo. <i>Registrar/Chief Executive Officer of the Nursing Council of Kenya</i>	
	09:20-09:35	The Analysis of Trends in Ovarian, Endometrial and Cervical Cancers in Nakuru county, Kenya. <i>Kamau Ann Wanjiru, Onyambu Frank, Kubai Patrick, Siwillis Mithe</i>	
	09:35-9:50	The hypolipidemic effects of non-bitter Cucumis metuliferus (Thorn melon) fruit extract in a high-fat/fructose diet and streptozotocin-induced type II diabetes mellitus in Wistar Albino rats: <i>Muriuki Dennis Mwangi, Peter Joseph Kasyoki, Atanas Malik Nyabola3, Kanyugo Anne Murugi4, Gichuki Joseph Maina Samwel Njagi</i>	
	09:50-10:05	Assessment of knowledge, attitude and practices among healthcare workers professions in the adoption of molecular diagnostics in cancer care and treatment in Kenya. <i>Mburu Ruth Nduta, Onyambu Frank, Kubai Patrick</i>	
	10:05-10:20	Genomic epidemiology of Dengue virus isolates associated with outbreaks in Kenya from 2011 to pre-COVID-19 period. <i>Victor Ofula, Arnold Lambisia, Solomon Langat, Edith Koskei, Hellen Koka, Samuel Owaka, Samson Limbaso Konongoi1,Samoel Khamadi, James Nokes, Charles Nyagoti, Frank Onyambu, Rosemary Sang</i>	
10:20- 10:30	Discussion		
10:30 – 11:00	HEALTH BREAK		
11:00 12:20	11:00-11:15	Explanatory Model for Health Systems Responsiveness Among Chronic Care <i>Hillary Kibiriti, Wanja Tenambergen, Job Mapesa</i>	Chairs Dr. Patrick K. Kubai Ms. Elizabeth Kathuri Rapporteurs Dr. Jane Rutto Mr. Morris Murithi
	11:15-11:30	Association of hyperglycemia and breast cancer in Meru county, Kenya: a case-control study. <i>Herbert Kibebe*, Eric Muchiri, MaryJoy Kaimuri</i>	
	11:30-11:45	Perspectives of healthcare workers on the risk factors for comorbidities among HIV/AIDS outpatients in Meru County, Kenya: a qualitative study <i>Dennis Kithinji, Fausto Ciccacci, Benjamin Welu, Harrison Ndoi, Claudia Mosconi, Carolina De Santo, Mariachiara Carestia, Anna Maria Doro Altan, Joseph Murungi, Koome Muthuri, Mariagrazia Cicala, Giovanni Guidotti, Stefano Orlando</i>	
	11:45-12:00	Improved Sanitation in Slums: Influence of Social and Economic Gaps in Meeting Community Needs in Kaptembwo, Nakuru County, Kenya <i>Lilian Mukiri Kirimi, Kirema Nkanata Mburugu, Stephen Karanja Mbugua, Joy Nyawira Riungu, Caroline Karani, Grace Kasiva Eliud</i>	
	12:00-12:15	Assessment of fecal coliforms in Catha edulis (khat) leaves along the value chain in Igembe South Sub-county, Meru, Kenya. <i>Gilbert Keter,</i>	



	<i>Dorothy Kagendo, Josephine Mutembei.</i>	
12:15-12:30	Relationship between the Severity of Aphasia and Linguistic Impairments among Individuals with Aphasia in Selected Tier Four Hospitals in Nakuru County, Kenya. <i>Mercyrose Jesang</i>	
12:30-12:45	Investigating the Financial Sustainability in Shared Sanitation: Key Economic Determinants in Nakuru Town West Slums, Kenya <i>Patrick Kubai, Kipngeno Aaron, Josephine Mutembei, Thurania Simon Taaliu</i>	
12:45-13:00	Discussion	
13:00-14:00	HEALTH BREAK	
14:00-14:15	Medicinal Potential of Miraa and Muguka - <i>Catha edulis</i> Extracts: Harnessing Positive Effects for Therapeutic Interventions in Meru Kenya. <i>Kubai Patrick Kinyua, Mugo Cynthia1., Thurania Simon Taaliu., Julius Toeri Ratumo1, Alfred Mugambi Mariga1, M' eruaki Joseph Muthari , Romanus Odhiambo1, Amos Omamo</i>	<div style="text-align: right; font-size: 2em; font-weight: bold;">33</div> <p>Chairs Dr. Patrick K. Kubai Ms. Elizabeth Kathuri</p> <p>Rapporteurs Dr. Jane Rutto Mr. Morris Murithi</p>
14:15-14:30	Strengthening Social Accountability for Improved Occupational Health and Safety of Manual Pit Emptiers in Korogocho, Kenya <i>Leunita Sumba, Caroline Kabaria, Ivy Chumo, Simon Thuo, Martha Keega, Sylvia Murunga, Elizabeth Ndungu, Beatrice Langat, Blessings Mberu</i>	
14:30-14:45	Prevalence of Hypertension And Associated Factors Among Young Adults Aged 18-35 Years Attending Meru Teaching And Referral Hospital, Kenya <i>Weru Rebecca, Kiboi Willy and Nyamu Henry</i>	
14:45-15:00	Knowledge, Challenges and Utilization of Health Insurance Among Staff at Meru University of Science and Technology, Kenya <i>Alex Gitonga Mwangi, Sudi Njema Nkatha, Anyango Idah Ologi, Faith Ndanu Daniel and Caroline Karani</i>	
15:00-15:15	Gender Differences in Help and Health Seeking Behaviors, discrimination and strategies for Preventable Mortality. <i>Thuranira S, T , Kinoti E. Kithuri, Kubai P.K</i>	
15:15-16:00	Assessment of self-care behaviors amongst diabetes mellitus patients attending selected health facilities in Maara Sub-County, Tharaka Nithi County, Kenya <i>Anderson Miriti, Patrick Kubai, Zakayo Maingi</i>	
16:00-16:15	Knowledge, attitude, practices and beliefs among religious leaders on uptake and adoption of routine immunization in Turkana, Samburu, Kitui, Kwale and Garissa counties in Kenya. <i>Mary Amatu</i>	
16:30	CLOSING CEREMONY (THEATRE 3)	



VENUE: THEATRE 4

CONFERENCE, 26TH JUNE 2025



PARALLEL SESSION 7 & 8	
THEMES 7 & 8: ENGINEERING & ICT	
14.00–16:15	<p>14:00-14:30 Keynote Speaker: Prof. Ciira Maina <i>Associate Professor at Dedan Kimathi University of Technology in Nyeri, Kenya, who specializes in Electrical and Electronic Engineering</i></p>
	<p>14:00-14:30 Solar-Powered Sound-Activated Automated Scarecrow for Smart Crop Protection <i>David Mwatha, Job Kerosi, Lucas Mogaka, Fiona Atieno</i></p>
	<p>14:30-14:45 Survey of security and privacy challenges and solutions in the IoT realm <i>David Thuku Gana, David Muchangi Mugo</i></p>
	<p>14:50-15:05 Assessing the role of sanitation infrastructure in enabling community-led total sanitation (CLTS) success: a case study of Magarini sub-county, Kilifi County, Kenya. <i>Simiyu Kelly, Josephine Mutembe, Jane Kawira Mberia, Grace Kasiva Eliud</i></p>
	<p>15:10-15:25 Assessing Service Delivery, Operational Challenges, and Socio-Economic Dynamics in Feecal Sludge Management: A case of Kisumu City <i>Joy Nyawira Riungu</i></p>
	<p>15:30- 15:45 Mentoring the Mentors: A Framework for Tutorial Assistant-Led Responsible Computing Education in Kenyan Universities: Innovative Educational Practices for Sustainable Development and Community Transformation <i>Mary Asunta Gaceri, Dismas Tendet Kitaria, Amos Chege</i></p>
	<p>15:50-16:05 Design, Fabrication and Performance Analysis of a Mixed Mode Solar Dryer for Black Soldier Fly Larvae. <i>Ben Asiago Moywaywa, George Njagi Njeru, Job Mochengo Kerosi</i></p>
	<p>16:10-16:25 Techno-Economic Optimization of a Microgrid for University Campuses in Kenya using HOMER <i>Fiona Atieno, Francis Njoka, Roy Orege</i></p>
16:30-16:45	Discussion
DAY BREAK	

Session Chairs
 Dr. Samson Munialo
 Dr. Joy Riungu

Rapporteurs
 Mr. Mwenda Gichuru
 Mr. Ben Asiago



PARALLEL SESSION 7 & 8 : THEATRE FOUR		
THEMES 7 & 8: ENGINEERING & ICT		
9:00 – 10:00	9:00 - 9:20	Keynote Speaker: Dr. Richard R. Bakare <i>Senior Lecturer in Strategic Management. Cardiff Metropolitan University</i>
	09:25-9:40	Blockchain for Tamper-Proof System Logs in Dynamics NAV ERP <i>Alfred Njoka Kimotho, Joyce M. Mwenja</i>
	09:35-9:50	The floods and collapse of latrines: sanitation facility design as a promoter of safe faecal management in Nyando sub-county, Kenya. <i>Reagan Omondi Onyango, Lilian Mukiri Kirimi, Robert Muriungi, Stephen Karanja</i>
	09:50-10:05	Selection of Remanufacturing Alternatives of Product Returns in a Reverse Supply Chain: A Modified Fuzzy MOORA Multi-Criteria Decision Algorithm <i>Geoffrey Barongo Omosa</i>
	10:05-10:20	Impact of climate change on stormwater management at Kianjai center and its environs in Meru county <i>Levis Mithamo, Austin Mwangi, Simon Mirara1, Lorraine Nkong1, Rosemary Matheka</i>
10:20– 10: 30	Discussion	
10:30 – 11:00	HEALTH BREAK	
11:00 – 13:00	11:00 – 11:15	A Performance evaluation of mechanical properties of polyethylene sand composites for sustainable pole fencing solution : Innovative Engineering and Infrastructure Solutions for Sustainable Communities <i>Njoki Susan Njeri, Gladys Wambui, George Njagi Njeri, Ben Asiago</i>
	11:15:-11:30	Adaptive mesh compression algorithm for near real-time rendering of large-scale static scenes. <i>Zack Kiusya, Kinyua Gikunda, George Musumba.</i>
	11:30-11:45	Assessment of Stabilization Practices and Awareness of Sustainable Binders for Road Stabilization <i>Abigail Chepkoech Kiprotich, Julius Ratumo Toeri, Joseph Mwiti Marangu</i>
	11:45-12:00	Evaluating the Use of Interlocking Concrete Hollow Blocks in Construction: Perceptions, Practices, Performance and Opportunities. <i>Halima Kadzo Konde , John Nyiro Mwero, Joseph Mwiti Marangu</i>
	12:00-12:15	Leveraging ISO Standards for Systems Librarianship in Digital and Smart Libraries: Strategic Recommendations for Policy Makers and Curriculum Development <i>John Maina, Selina Muthii, Mercy Musungu, Jane Kibos</i>
	12:15-12:30	Bridging Theory and Practice: Embedding Critical Thinking, Design Thinking, and Ethics in IT Student Project Development <i>Victoria Mukami; Consolata Gakii Mwirichia</i>
	12:30-12:45	Discussion
13:00-14:00	HEALTH BREAK	
	14:00-14:15	Fostering Responsible Computing Practices in Undergraduate Group Projects: Insights from a Classroom-Based Study <i>Anthony Njina, Dorothy Bundi, Mary Mwadulo</i>

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Session Chairs
Dr. Beatrice Owiti
Dr. Vitalis Too

Rapporteurs
Mr. John Ng'ang'a
Ms. Rosemary Mwendu



	<p>14:15-14:30 Infrastructure resilience on expansive soils: a case study of community challenges and solutions in Kenya. <i>Janet Mbovu Mbeva, Julius Ratumo Toeri, George Ng'ang'a Mungai Joseph Mwiti Marangu</i></p> <p>14:30-14:45 Utilization of masonry cement in Kenya's construction industry: perceptions, barriers, and opportunities. <i>Joseph Mwangi Kaigai, Julius Ratumo Toeri, Joseph Mwiti Marangu</i></p> <p>14:45-15:00 Enhancing Maize Production through IoT, Machine Learning, and Predictive Analytics <i>Dismas Tendet Kitaria, Stephen Makau Mutua, Amos Chege Kirongo</i></p> <p>15:00-15:15 Enhanced financial fraud detection in SACCOs using AI and Machine Learning: A real time monitoring approach. <i>Patrick Mwenda Imaita, Amos Chege, Amos Omamo</i></p> <p>15:15-15:30 Economic feasibility of Cobalt in Macalder Mines Migori County - Foundation for Wealth Creation and employment opportunities. <i>Lucas Mogaka, Patrick Kuloba</i></p> <p>15:30-15:45 Design, Fabrication, and Testing of a Smart Solar Powered Cowshed. <i>Domenic Gikunda, Daniel Munene, Fiona Atieno, Lucas Mogaka, Job Kerosi</i></p> <p>15:45-16:00 Stateful Firewall Packet Analysis Model for Filtering Session Fixation Attack <i>Kailanya Eunice, Amos Omamo, Mary Mwadulo</i></p> <p>16:00-16:30 Discussion</p>	<p>Session Chairs Dr. Beatrice Owiti Dr. Vitalis Too</p> <p>Rapporteurs Mr. John Ng'ang'a Ms. Rosemary Mwende</p>
16:30	CLOSING CEREMONY (THEATRE 3)	

