

# **KIRINYAGA UNIVERSITY**

**5**<sup>TH</sup> ANNUAL INTERNATIONAL VIRTUAL CONFERENCE, 2022

# **PROGRAMME**

# **THEME**

RE-ENGINEERING LEADERSHIP FOR SUSTAINABLE DEVELOPMENT

**CONFERENCE DATES** 

MARCH 24-25, 2022

**VENUE** 

**VIRTUAL PLATFORM OF KIRINYAGA UNIVERSITY** 



# KIRINYAGA UNIVERSITY

# 5<sup>TH</sup> ANNUAL INTERNATIONAL CONFERENCE

#### MARCH 24-25, 2022

#### **THEME**

#### RE-ENGINEERING LEADERSHIP FOR SUSTAINABLE DEVELOPMENT

## **SUB THEMES**

- 1. Engineering, Science. Technology & Innovation
- 2. Biodiversity, Biorisk & Environmental Conservation
- 3. Natural Resources, Tourism & Climate Change
- 4. Education, Health, Agriculture & Food Security for Sustainable Development
- 5. Business, Economics, Entrepreneurship, Industry & Finance
- 6. Governance, Culture and Social economics for Societal Development.
- 7. Women, Gender, Children & Youth Empowerment

Email: conference2022@kyu.ac.ke



# DAY ONE: THURSDAY, MARCH 24, 2022

# **Preliminaries**

Conference RegistrationFamiliarization with conference programme

# 8:00am - 5.00pm: Conference Opening / Parallel Sessions / Plenary

Coordinator: Dr. Jotham M. Wasike

# **VENUE: VIRTUAL**

TIME	ACTIVITY
	<b>Welcoming Remarks</b> - Deputy Vice Chancellor (ASA), Kirinyaga University
8:30am - 8: 40 am	Prof. Charles O. A. Omwandho, Ph.D
8: 40am – 9:00am	Opening Remarks - Vice Chancellor, Kirinyaga University - Prof. Mary Ndungu, Ph.D
9.00am - 1.00pm	Parallel Sessions & Plenary
1.00pm - 2.00pm	Lunch/Health Break
2.00pm - 5.00pm	Parallel Sessions &Plenary
5.00pm	Announcements/ Closing

#### MORNING PARALLEL SESSIONS

#### 9.00AM - 1.00PM

SUB-THEME	HEALTH & WELLNESS
Chair	Dr. Immaculate Marwa
Rapporteur	Mr. Kenny Kamau

- 1) Ambisi, A¹. & Ngari, D. M².(¹Kirinyaga University, ²Chuka University) .Social Cultural and Economic Factors Affecting the Practice of Secondary Prevention among Patients with Type 2 Diabetes Mellitus at Consolata Nkubu and Meru Level Five Hospital in Meru County.
- **2) Mburu, S. & Makena, E.** (Kirinyaga University). Vitamin A Immunization Uptake, Awareness and Childhood Infections: A Case Study of Pregnant Women Visiting Antenatal Clinic at Kerugoya Hospital.
- 3) Njau, S. K¹., Gakuanye, R.M². (¹Kirinyaga University, ²Karatina Sub-County Hospital). Adherence to World Health Organization Guidelines on Preventation of Surgical Sites Infections among Nurses in Karatina Sub-County Hospital, Kenya.
- **4) Ngari**, **M¹**, **Munzi**, **A. M.²**, **Machwara**, **N³**, **Njogu**, **W.⁴**(¹Karatina University,²Kirinyaga University, ³Kenyatta University, ⁴University of New South Wales, Australia) Health Facility Factors Influencing Secondary Prevention Practices among Type 2 Diabetes Mellitus Patients in Meru County, Kenya: A Hospital Descriptive Correlational Study
- 5) Evah, M M¹, Abednego, O², Innocent, M³, Emmah, M⁴, Mary, M⁵.( ¹,⁵Kirinyaga University, ²Agakhan University, ³Kenyatta National Hospital, ⁴University of Nairobi). Extent to which Visual Inspection with Acetic Acid Screening Guidelines are Adhered to in Selected Health Facilities in Embu County Kenya, Before and After Intervention.
- **6) Nderitu, K.W¹, Onyonka, E. M¹, Atunga Nyachieo, A²** (¹University of Nairobi, ²Institute of Primate Research, Kenya). Solanum nigrum L. Show Anti-Obesity Effects on High-Fat Diet-Fed Sprague Dawley *Rats* in a Randomized Study.

SUB-THEME	ENGINEERING & TECHNOLOGY
Chair	Eng. Moses Mwai
Rapporteur	Ms. Cynthia Ogali

- **1) Murianka, S.0.** (Kirinyaga University). Towards A Framework for Managing Construction Project Labour Productivity in Kenya.
- **2) Okinyi, D**<sup>1</sup>, **Ombiro, J**<sup>2</sup> <sup>1</sup>**Munji, M** <sup>1</sup>**Njoroge, W.** ( <sup>1,3</sup>Kenyatta University, <sup>2</sup>Maasai Mara University). Characterization of SnS / SnO<sub>2</sub>: Sb P-N Junction for Solar Cell Applications.
- **3) Kinuthia, H¹,, Majale, C². Letema, S³** (¹,²,³Kenyatta University,¹Kirinyaga University, Kenya). The Behaviour of Land Prices During the Road Planning and Development along (Greater) Eastern Bypass.

SUB-THEME	NATURAL AND PHYSICAL SCIENCES
Chair	Dr. Peter Wanjohi
Rapporteur	Ms. Caroline Muthoni

- 1) Amenya, C. S, Musundi , W. S, & Kirimi , J. (Chuka University). Norm- Attainability of Generalized Finite Operators on C\*-Algebra
- **2) Waithaka, P. N¹, Gathuru, E. M², Githaga ,B. M³, Gacau, S. W.⁴(¹** Kirinyaga University, <sup>2,3,4</sup>Egerton University). Development of Antiserum for Rapid Identification of *Erwinia* Spp. isolated from Star-of-Bethlehem (*Ornithogalum* Spp.) and its Control Using Actinomycetes.
- 3) Mutuma, B <sup>1,2\*</sup>, Ndeye, F. S¹, Amanda, B¹, Ndeye, M. N¹, Santoro, C³, Brilloni, A⁴, Poli, F⁴, Soavi, F⁴ Manyala, N¹(¹ University of Pretoria, South Africa, ² Kirinyaga University, Kenya ³ University of Manchester, United Kingdom, ⁴Alma Mater Studiorum Universita′ di Bologna, Italy) .Porous Carbons Derived from Lignin: Applications for Super capacitors and Oxygen Reduction Electro catalysts in Neutral Media.

SUB- THEME	ICT, LIBRARY & INNOVATION
Chair	Dr. James Mwikya
Rapporteur	Mr. Francis Kamau

- 1) Kariuki, P. (Nyandarua National Polytechnic). Assessing the Efficacy of Cost of Cloud Systems for Institutional Repository at Nyandarua National Polytechnics, Nyandarua County, Kenya.
- **2) Ongili**, **P. & Wasike**, **J.**(Kirinyaga University). Establishment of the Currency Detector for the Visually Impaired.
- **3) Mukoma**, **C.** (Kenyatta University) Library Programming: An Emerging Trend in Information Dissemination: The Case of Moi University, Nairobi Campus Library.
- **4) Diki, P. M.** (Meru University of Science and Technology) Factors Influencing Utilization of Library E-Resources in Academic Delivery: The Case of Multimedia University of Kenya.

SUB - THEME	AGRICULTURE & ENVIRONMENT
Chair	Dr. Victor Musau
Rapporteur	Ms. Lucy Kamau

- 1) **Kamau, J. W., Munyua, C. N., & Kamuru, S. M.** (Egerton University) Influence of Land Size On Household Food Security in the Tea Zones of Kirinyaga County.
- 2) Maina, P., & Nzengya, D. (St Pauls University, Limuru, Kenya). Is there a Mismatch between Perceptions of Climate Change Variability and Adaptation Practices amongst Smallholder Farmers in Mount Kenya Region?
- 3) Muleke, E. M¹\*, Yan, W¹\*, Zhang, W.¹\*, XU, L¹, Ying, J¹, Karanja, B¹, Zhu, X², Fan, L¹, Ahmadzai, Z¹, Liu, L¹. (Nanjing Agricultural University, China, North Dakota State University, USA).Genome-Wide Identification and Expression Profiling of Myb Transcription Factors in Radish (Raphanus Sativus L).
- 4) **Mwangi, M²W¹. Muiru, W.M²** (¹Nairobi Technical Training Institute, ²University of Nairobi). Prevalence of Nematode Genera and Trophic Groups Associated with Tomato Crop in Mwea West Sub-county, Kirinyaga County, Kenya.

5) **Chemutai, J, Daudi, F & Ngetich, J.K**. (University of Eldoret). Application of Integrated Water Resources Management Principles in Urban Kenya: The Case of Kapsabet Town.

ТНЕМЕ	BUSINESS & ENTREPRENEURSHIP (A)
Chair	Dr. Hannah Wambugu
Rapporteur	Mr. Patrick Mwangi

- 1) **Mwendwa, A. M¹, Atambo, W². Bravo, M³. Atikiya, R⁴.** (¹,²,³ Jomo Kenyatta University of Agriculture and Technology, ⁴Kenya Institute of Government). Managerial Networking and Competitive Advantage: The Moderating Influence of Competitive Intensity.
- 2) **Mukoba**, **D. A.** (Laikipia University) Tender Leaders Behind Bars- Smokescreens of the Self-Identity of Child Inmates in Borstal Institutions of Kenya.
- 3) **Chemwei, B¹., Koech, S. J².** (¹Kirinyaga University, ²Baringo County Assembly, Kenya). Job Satisfaction of School Security Guards in Baringo County.
- 4) **Munyua, C.** (Karatina University). Influence of Access to Government Procurement Opportunities on Performance of Women-Owned Micro Enterprises in Kenya.

SUB-THEME	BUSINESS & ENTREPRENEURSHIP (B)
Chair	Dr. Agnes Mutiso
Rapporteur	Ms. Joy Sarah

- 1) Njoroge, D¹., Sabwami, P². (¹Kirinyaga University, ²Garissa University, Kenya). Human Resource Practices and Organizational Citizenship Behavior Development.
- **2) Ndungu, W. G**<sup>1</sup>, **Kiiru, G,** <sup>2</sup>, **Muchangi, D**<sup>3</sup>(Kirinyaga University, Kenya) Influence of Leadership on the Performance of Faith-Based Hospitals in Kenya.
- **3) Balogun, O.A.** (Redeemers University, Nigeria). Leadership and Sustainable Development in Africa: Lessons from Traditional Yoruba Society.

**4)** Mugure, R¹, ²Githira, C² (¹Thika Technical Institute, ² KCA University, Kenya). Servant Leadership and Organization Performance of Faith-Based Self Help Groups in Anglican Church of Kenya in Kirinyaga County, Kenya.

SUB-THEME	EDUCATION & LEADERSHIP
Chair	Dr. Anne Muiru
Rapporteur	Mr. James Kamau

- **1)** Chemwei, B¹. Cheruiyot, G². (¹Kirinyaga University, ²Teachers Service Commission, Kenya) Effect of Guidance and Counselling Teachers' Professional Qualifications on Implementation of Guidance and Counselling Services in Baringo Central Sub-County, Kenya.
- **2)** Yator, J, M. K. Kibet, M.K J. Marendich, J. (The Eldoret National Polytechnic, Kenya) The Effectiveness of Blended Learning in Training Agriculture Using Dairy Delta Academy Platform.
- **3) Juma, R.C. & Onyango, D.** (St. Augustine University of Tanzania). Attitudes of Members of Tanzania Teachers Union (TTU) Towards the Effectiveness of their Union in Improving their Welfare at Dodoma City Council.
- **4) Mulongo,M, Njoka, J. & Kimosop, M.** (Karatina University, Kenya). Challenges Affecting the Control of Examination Malpractices: A Case of Public and Private Universities, Kenya.

## AFTERNOON PARALLEL SESSIONS

#### 2.00PM - 5.00PM

SUB-THEME	HEALTH & WELLNESS
Chair	Prof . Laura Wangai
Rapporteur	Ms. Mercy Njuguna

- 1) Mecha, E<sup>1,2</sup>, Mwaura, A<sup>1</sup>, Maoga, J<sup>1</sup>, Makunja, R<sup>2</sup>, Omwandho, C. A,O <sup>2,3</sup>, Tinneberg, H<sup>1</sup>, Konrad, L<sup>1</sup>.(¹Justus-Liebig University, Giessen, Germany, ²University of Nairobi, ³Kirinyaga University). Role of Bone Morphogenetic Proteins (BMPs) and TGF-β Receptors in the Pathogenesis of Endometriosis.
- **2) Alwora, A.** (Kirinyaga University, Kenya). Examination of Rarely Disguised Features of Handwriting: Kirinyaga University, Kenya
- **3) Njeru, S. K, Kagoiyo, S, Webale, M**. ( <sup>1,3</sup>Kirinyaga University, <sup>2</sup>Kirinyaga County Hospital-Kerugoya). Factors Influencing High Child Mortality in Karemo Sub county, Siaya County Kenya
- **4) Marwa, N. I¹. Mwita, B. M².** ( ¹Kirinyaga University,²University of Eastern Africa-Baraton). Socio-Cultural Barriers to Comprehensive Healthcare among the Elderly Population in Kenya
- **5) Marwa, I¹, Mtshali, G²**(¹ Kirinyaga University, ²University of KwaZulu Natal-South Africa) Challenges in the Management of Chronic Comorbid Conditions (Diabetes and Hypertension) in Kenya

SUB-THEME	ENGINEERING& TECHNOLOGY
Chair	Eng. Emmanuel Mbusi
Rapporteur	Ms. Shirley Musima

- 1) Mutonga, M¹, Kipkorir, E², Ngetich, W³ (¹ Kirinyaga University, ²Moi University, ³University of Eldoret, Kenya). Evaluation of Aqua Crop Model in Wheat Production Under Zero and Conventional Tillage Practices in Laikipia, Kenya.
- **2) Ogari, A. N. &, Bosire, R. N**. (Kirinyaga University, Kenya). Jatropha Curcas Oil Combustion in Internal Combustion Engines Under Oxy-Fuel Conditions-A Review

**3) Wainaina, P. M.¹,², Njue, M.R², Owino, G³**( ¹,²,²,³ Egerton University , ²Kirinyaga University, Kenya). Mathematical Models for Predicting Solar Irradiance at a Site for Milk Solar Refrigeration Systems.

SUB- THEME	NATURAL AND PHYSICAL SCIENCES
Chair	Dr. Geoffrey Muthoka
Rapporteur	Mr. Peter Muiru

- **1) Zhou, X¹, Karanja, J. M.², Yang, M¹, Ming, X. Z.¹,\*, Liu, K.¹, Zhou, F.¹,\*,Dai, Y³**(¹Hubei University of Arts and Science, China, ²Kirinyaga University, ³Wuhan University of Technology, Wuhan, China). Spiral Micro-Structured FBG Hydrogen Sensor based on Pd<sub>87</sub>-Ni<sub>13</sub>/Pd<sub>4</sub>-Ag<sub>1</sub> Thin Film and Femtosecond Laser Ablation.
- **2) Owuor**, **J**, **Okelo**, **B**, **Owino**, **J**, & **Kinyanjui**, **J**. (Jaramogi Oginga Odinga University of Science and Technology). On Density in Norm-Attainable Classes.
- **3)** Okelo,B. (Jaramogi Oginga Odinga University of Science and Technology). On Measure Preserving Transformations and Random Interlacements.

SUB-THEME	ICT, LIBRARY & INNOVATION
Chair	Dr. Josephat Karani
Rapporteur	Mr. Simon Gacheru

- 1) Korir , P. & Wasike, J. ( Kirinyaga University). Web Application Rental System of Farm-Machinery (MRAF)
- **2) Wasike, J. M¹., Wabwile, P. N².** (Kirinyaga University, Masinde Muliro University of Science and Technology). Cloud Computing Usability Model for Quality University Education.
- **3) Ikuomola A. J.** (Olusegun Agagu University of Science and Technology, Nigeria.). Development of a Mobile Application for Community Health Workers.
- **4) Kerre**, **D** ,& **Muchiri**, **H**· **(** Strathmore University). The Need for Improved Computer Vision Based Techniques for Strawberry Fungal Leaf Disease Classification.

SUB-THEME	AGRICULTURE & ENVIRONMENT
Chair	Dr. Brigit Mutuma
Rapporteur	Ms. Lydia Maina

- **1) Maina, S. & Karuri, H.** (University of Embu). Nematode Community Assemblage in Maize Agroecosystems: A Valuable Bio Indicator Tool for Agro-Ecosystem Health.
- **2) Kiria**, E & **Onundo**, **K**. (Chuka University, Kenya). Sustainable Approaches for Community Involvement in the Conservation and Management of Dryland Forest and their Biodiversity: A Case of Kijege Forest, Tharaka Nithi County, Kenya.
- **3) Mbaka F. K, H. O. Ndukhu, H.O. & Oloo-abucheli, G.O**¹( Chuka University, Kenya). Influence of *Rhizobium* Inoculation and Phosphate Rock Fertilizer Application on Growth and Yield Components of Green Gram in Tharaka-Nithi County, Kenya
- **4) Karuri, H.** (University of Embu, Kenya). Nematode Soil Food Web in Different Land Use Systems in Embu.

SUB-THEME	BUSINESS & ENTERPRENEURSHIP (A)
Chair	Prof. Pius Odunga
Rapporteur	Ms. Zipporah Ndirangu

- **1) Kisirkoi, S.** (Maasai Mara University, Kenya) Factors that Promote Engagement in Entrepreneurship among the Youth to Reduce Unemployment in Kenya.
- **2) Maina, J., & Muigai, R. G.** (Kirinyaga University, Kenya). Credit Risk Management and Loan Performance of Non Deposit Taking Microfinance Institutions in Kenya: A Case Study of Kirinyaga County.
- **3) Pila, J, Muturi, W,& Olweny, T**. ( Jomo Kenyatta University of Agriculture and Technology, Kenya). Financial Uncertainty Indicators and Financial Performance of Manufacturing Firms in Kenya.
- **4)** Omosa, J, Mwangi, G, Mwangi, C, Muriithi, R. (Murang'a University of Technology, Kenya). Management Strategy on Job Satisfaction in the Lake Region Economic Bloc County Governments: A Case of Nyamira County, Kenya.

ISUB-THEME	ENTREPRENEURSHIP AND STRATEGIC BUSINESS(B)
Chair	Dr. David Njoroge
Rapporteur	Mr. Douglas Mwirigi

- 1) Murithi, K. & Waweru, G. (Kirinyaga University, Kenya) Adjustment of Interest Rates, Demand for Credit and Economic Growth in Kenya.
- **2) Kinyua, W. J, Kiiru, G, & Njoroge, D** (Kirinyaga University, Kenya). Client Appraisal and Loan Repayment Performance of Revolving Funds in Kenya.
- **3) Njuguna, W, Kabata, D, & Wambugu, H.** (Kirinyaga University, Kenya). Innovation Orientation and the Performance of Insurance Companies in Kenya.
- **4) Mweu**, **T**, **Kipkirui**, **D**. **K Nyakina**, **A**. **K** & **Githira**, **C**. (KCA University, Kenya) .Does Firm Size Have a Moderating Effect on the Influence of Financial Structure on Financial Performance of Listed Non-Financial Firms in Nairobi Securities Exchanges.

SUB-THEME	EDUCATION & LEADERSHIP
Chair	Dr. Bernard Chemwei
Rapporteur	Mr Dennis Kanyingi

- 1) Mutua, M. (University of the Free State). Undergraduate E-Learning Programmes in the Health Professions: An Integrative Review of Evaluation Standards in Low- and Middle-Income Countries.
- **2) Ogeto, P. M. & Mokua P.M.** (Laikipia University, Kenya, Kisii University, Kenya). Curbing Diarrhoea to Tame School Absenteeism Among Pupils in Nairobi Slums: Opportunities Stemming from Hand Washing as a Covid-19 Prevention Measure.
- **3) Muriuki, J. N.** (University of Nairobi, Kenya). An Investigation into the Challenges that Schools will be Facing in Implementing the Ministry of Health Guidelines on Covid 19 in Nakuru North Sub –County Secondary Schools.

# DAY TWO: FRIDAY, MARCH 25, 2022

RegistrationAnnouncements

Coordinator: Dr. Agnes N. Mutiso

**VENUE: VIRTUAL** 

8.30am - 10.30 am	Morning Parallel Sessions
10.30am - 11.00am	Health Break
11.00am- 1.00pm	Mid-Morning Parallel Sessions
1.00pm - 2.00pm	Health/Lunch Break
2.00pm - 4.30pm	Afternoon Parallel Sessions
4.30pm -4.35pm	Closing Remarks from Deputy Vice Chancellor, Kirinyaga University <b>Prof. Charles O. Omwandho, Ph.D</b>
4.35pm - 4.40pm	Closing Remarks Vice Chancellor, Kirinyaga University,
	Prof. Mary W. Ndungu, PhD
4.40pm - 4.45pm	Announcements / Issuance of Certificates.
4.45pm - 4.50pm	Vote of thanks by Representative of Participants
4.50pm - 5.00pm	Vote of thanks from KyU
5.00pm	End of Conference

## MORNING PARALLEL SESSIONS

#### 9.00 AM - 10.30AM

SUB-THEME	HEALTH & WELLNESS
Chair	Dr. Mary Murigi
Rapporteur	Ms. Evah Maina

- 1) Chabari, K. S. & Ogolla, F. (Chuka University, Kenya). Evaluation of Bacteriological Quality Status of Shallow Wells in Tharaka Nithi County, Kenya.
- 2) Barasa, S¹, Miriti, A¹, Silas, P¹, Murigi, M², Munyalo, B³, Maithya, R³, Jebet, J⁴, Shikuku, ⁵.( ¹Kenya Medical Training College, ²Kirinyaga University, ³Amref International University, ⁴University of Nairobi, Kenya, ⁵Liverpool School of Tropical Medicine). Partograph Completion: A Comparison Between Faith-Based Mission Hospitals and County Public Teaching and Referral Hospitals in Upper Eastern, Kenya.
- 3) Chepkoech, J , & Oduori, D.O. (Maasai Mara University, Kenya). A 2-Year Retrospective Survey of Dog Bite Cases Reported at Narok County Referral Hospital, Kenya.
- **4) Ogechi, B, Ngetich, J. & Kiplagat, A.** (University of Eldoret, Kenya). Influence of Anthropogenic Activities on Nyangongo Wetland Ecosystem in Nyaribari Chache Sub-County, Kisii County, Kenya.
- 5) Maoga, J¹, Muhammad, A. R¹, Mecha, E ¹,³, Mwaura, A¹, Omwandho, C, O.A ³,⁴, Scheiner-Bobis, G ² Konrad, L¹( ¹,² Justus-Liebig University, Giessen, Germany, ³University of Nairobi, ⁴Kirinyaga University, Kenya).Membrane-Type 1 Matrix Metalloproteinase (MT1-MMP, MMP14) in Endocervical Mucus of Patients with and Without Endometriosis.

SUB-THEME	ENGINEERING& TECHNOLOGY
Chair	Eng. Senteu Ole Murianka
Rapporteur	Eng. Lorrian Mbaabu

**1) Gachoki, N, Musima, S, L.Mbaabu, L, & Mwai, M.** (Kirinyaga University, Kenya). A Review of Early Interventions for Creation of Interest in STEM Education.

**2) Mwai, M¹, Gichane, M², Thimo, L³, Mwai, A⁴ Sirengo,** H⁵ (³Kirinyaga University, ²,⁴Dedan Kimathi University, ⁵Starehe Girls Center.) Design and Fabrication of a Solar Powered Touchless Temperature Monitoring and Hand Sanitizing Device.

SUB-THEME	NATURAL AND PHYSICAL SCIENCES
Chair	Dr. Joseph Muna
Rapporteur	Ms. Caroline Kimotho

- **1) Asamba, S. O \*, Obogi, R \* Okelo, B.(** ¹Kisii University,²Jaramogi Oginga Odinga University of Science and Technology) .Characterization Of Lower Semi-Continuous Functions in *L*<sup>P</sup>-Spaces.
- **2)** Waithaka, P. N.¹, Gathura, E. M², Githaiga, B. M³, Onkoba, K. M⁴. (¹Kirinyaga University, 2³,⁴Egerton University). Antimicrobial Activity of Mushroom (*Agaricus Bisporus*) and Fungi (*Trametes Gibbosa*) Extracts from Mushrooms and Fungi of Egerton Main Campus, Njoro Kenya.
- 3) Oyekan, E.A. (Olusegun Agagu University of Science and Technology, Nigeria). Subclasses of Analytic Functions Defined by Al-Oboudi Differential Operator Associated with Pascal Distribution Series.

SUB-THEME	ICT, LIBRARY AND INNOVATION
Chair	Dr. Ephantus Mwangi
Rapporteur	Mr Simon Gacheru

- 1) Kamau , F¹,², Wasike, J². ( ¹²Jomo Kenyatta University of Science and Technology, ²Kirinyaga University) Named Entity Recognition Using Memory Based Learning Algorithms.
- **2) Kamau, G¹., Ndinda, M²**. (¹Chuka University, ²Egerton University). Of Virtual Libraries In-Service Delivery in Universities in Kenya.
- **3) Kimani, H¹, Minishi-Majanja, M.K** (University of South Africa). Use of Mobile Telecommunication Technologies in Access, Use, Transfer and Exchange of Agricultural Information among Small Scale Farmers in Rural Kenya, Ol'jorok Sub-County, Nyandarua County.

SUB-THEME	AGRICULTURE & ENVIRONMENT
Chair	Dr. Mariah Onditi
Rapporteur	Ms Beatrice Wairimu

- 1) Biwott, C., G.C., Kiplagat, A& Ngetich, J.K. (University of Eldoret). Addressing Challenges of Rural Water Supply in the Era of Climate Change in Kenya; The case of Kapseret Sub County, Uasin Gishu County.
- 2) Biwott, G.C, \_Kiplagat, A\_& Ngetich, J.K. (University of Eldoret). Factors Influencing Stormwater Utilization in Kapseret Sub-County, Uasin Gishu County, Kenya.
- 3) Mwandiki, M,C, Gichumbi, J.M, Kiruki,S, & Ogolla, F.O<sup>4</sup>( Chuka University, Kenya). Impact of Karatina Sewer Stabilization Ponds on Biological and Physico-Chemical Properties of Water along River Ragati in Nyeri County, Kenya.
- **4) Nyangoto, D.M. B.** (Nairobi Technical Training Institute). Ecohydrologic Effects of Shade Trees Spacing on Soil Characteristics Affecting Tea Yields: A Case Study of Moniere Estate in Kipkebe of Sotik Sub-County.
- 5) Odhiambo, F, Aminer, T., Okelo, B & Manyala, J. (Jaramogi Oginga Odinga University of Science and Technology). Dynamical Analysis of Four-Species Food Web System with Prey Refuge and Holling Type III Functional Response.

SUB-THEME	BUSINESS & ENTERPRENEURSHIP (A)
Chair	Dr. Dennis Muchangi
Rapporteur	Dr. Susan Nkanata

- **1) Onsongo**, E. N. (Kisii University, Kenya). Coaching Influences Service Delivery as a Key Management Development Practice in Public Universities in Kenya.
- **2) Gitu, P. M.** (Laikipia University, Kenya). Discursive Construction of Masculinities in Gender Based Violence (GBV) in Relation to Socio-Economic Status of Women in Kenya.
- **3) Karuri, E.** (Kenyatta University, Kenya). Reward Management Practices and Employee Performance in Commercial Banks in Kenya.
- **4) Maina, E.** (Kirinyaga University). Effect of Employee Resourcing on Employee's Commitment in the Tele-Communication Industry in Kenya.

SUB-THEME	BUSINESS & ENTERPRENEURSHIP(B)
Chair	Dr. Gitau Muigai
Rapporteur	Ms. Zipporah Ndirangu

- **1) Ndungu, W. G¹, Kiiru, G, ², Muchangi, D³(**Kirinyaga University, Kenya). Influence of Market Structure on the Performance of Faith-Based Hospitals in Kenya.
- **2) Kabata**, **D.** (Kirinyaga University, Kenya). Social Influence and Perceived Enjoyment: Predicting the Use of Mobile Payment Services Kenya.
- **3) Kiruja, E.** (Technical University of Kenya). Measuring Human Resource Development Function for Sustainable Development.
- **4) Muigai, R. G<sup>1</sup>., Wamweya, E<sup>2</sup>.** (¹Kirinyaga University, ²Jomo Kenyatta University of Agriculture & Technology). Credit Referencing and Loan Repayment in Kenya.

SUB-THEME	EDUCATION & LEADERSHIP
Chair	Dr Bernard Chemwei
Rapporteur	Ms. Grace Chomba

- 1) Lawal, R. F. & Dada, F. H. (Federal College of Education (Technical, Nigeria). Mathematics Education and Sustainable Development in Nigeria: A Systematic Review.
- 2) **Gitonga, H., Karamana, K. T & Gichohi, P. M** (Kenya Methodist University, Kenya) The Relationship between the Teachers' Conduct and the Teachers' Performance in Public Primary Schools in Igembe North Sub-County, Meru County.
- 3) **Ndunda, H. K¹, Lilechi, V. W²** (¹Kirinyaga University, ²Kenyatta university, Kenya) Technology Enhanced Design Education Through the Use of Extended Reality Learning Environments.
- 4) **Muhia, P. M.** (Laikipia University, Kenya). Balancing Natural Powers, Synthetic Powers for Societal Development: Female versus Male Powers interplay in a Man of the People, When the Sun Goes Down and Song of Malaya.

#### MID MORNING PARALLEL SESSIONS

#### 10.30AM - 1.00PM

SUB-THEME	HEALTH & WELLNESSS
Chair	Dr. David Nderu
Rapporteur	Ms Angela Alwora

- 1) Mureithi, M¹., K'Odhiambo, M. O². Mureithi, J³., Murigi, M⁴. (¹.².³Kenyatta University, ⁴Kirinyaga University). Determinants of Prostate Cancer Screening Uptake Among Men Aged 40 Years and Above in Ruiru Sub County, Kenya.
- 2) Adongo, F. A., Aminer, T., Okelo, B. & Onyango, B. (Jaramogi Oginga Odinga University of Science and Technology). Mathematical Modelling of Covid-19 and Diabetes Comorbidity Under Vaccination.
- 3) Kitungulu, N<sup>1,2</sup>, Guyah, B<sup>1</sup>, Webale, M<sup>3</sup>, Shaviya, N<sup>4</sup>, Machani, M<sup>5</sup>, Mulama, D<sup>2</sup>, Ndenga, B<sup>5</sup>, Tarus, J<sup>2</sup>(<sup>1</sup>Maseno University, <sup>2</sup>Masinde Muliro University of Science and Technology, Department of Biological Sciences. <sup>3</sup>Kirinyaga University, <sup>4</sup>Masinde Muliro University of Science and Technology). Resistance of *Anopheles gambiae* sensu lato to Pirimiphos-methyl Insecticide in Kakamega County, Highlands of Western Kenya.
- 4) **Kamau, S.M**. (Kirinyaga University). Curriculum Related Challenges for KRCHN BSN Nurse at Level 5 Hospital.

SUB-THEME	ENGINEERING & TECHNOLOGY
Chair	Eng. Rodgers Bosire
Rapporteur	Eng. Vincent Ngeno

- **1) Mbusi, E.** (Kirinyaga University). Trend of Construction Output Growth in Kenya:1977-2021.
- 2) Oyier, I. L., Nyagol, M, & Odaya, A. (Jaramogi Oginga Odinga University of Science & Techonology). An Assessment of the Influence of Reverse Logistics Practices on Solid Waste Disposal Management in Kisumu Town, Kenya.
- **3)** Odhiambo, S, Mwasi, B & Ngetich, J. (University of Eldoret). Analysis of Urban Sprawl Patterns around Eldoret Town Using Object Based Image Analysis.

SUB-THEME	NATURAL & PHYSICAL SCIENCES
Chair	Dr Paul Waithaka
Rapporteur	Mr Nathan Musembi

- 1) Oburu, J, Nyakinda, J\*, Were, J,& Oduor, B. (Jaramogi Oginga Odinga University of Science and Technology). On (P,Q)-Binomial Extension of Cox-Ross-Rubinstein Model for Optimization of Portfolio with Noisy Observations in Life Insurance.
- **2) Maina, E.** (Kirinyaga University). A Novel Covalently Bonded Amino-Silica for Capillary Ion Chromatography.
- **3) Mailu, S.** (Machakos University). Nanocomposites for Determination of Pollutants in Waste Water.

SUB- THEME	ICT, LIBRARY & INNOVATION
Chair	Dr. Agatha Wagutu
Rapporteur	Mr. Harrison Karani

- **1) Mwikya**, **J**<sup>1</sup>, **Karani**, **J**<sup>2</sup>, **Obura**, **J**<sup>3</sup>. (1.2 Kirinyaga University, 2Bomet University College, Kenya). Secure Management of Encryption Keys for Small and Medium Enterprises in Africa: A Comparative Study.
- **2) Kirori, Z. & Ireri, E.** (Jomo Kenyatta University of Agriculture and Technology, Kenya) COVID-19 Forecast using Machine Learning Techniques.
- 3) Maina, S. (Kirinyaga University, Kenya) Legislative and Policy Regime on Information & Knowledge Sharing through indigenous Knowledge in Kenya: A Review of Literature.

SUB-THEME	AGRICULUTURE & ENVIRONMENT
Chair	Dr. Dickson Kinyua
Rapporteur	Ms Beatrice Wairimu

- 1) Kipkemboi, J. K.¹, Manene F. M.², Rotich, S. K.³, Nyamu J.K.⁴ Omengo, F.⁵(¹Kaimosi University College, ²Egerton University, ³ Moi University, ⁴Kirinyaga University, ⁵ Kenya Wildlife Service.) Real-Time Monitoring of Water Quality in Lake Nakuru Using Telemetry
- 2) Ogallo, F1\*, Onyango, B2, Muraya, M3( ¹Chuka University, ².³Jaramogi Oginga Odinga University of Science and Technology, Kenya). Assessment of Tomato Farming Strategies, Diseases Knowledge and Management Practices Among Farmers' in Kirinyaga County, Kenya.
- 3) Ogolla, O. F¹, Muraya M. M², Onyango O. B³( ¹Chuka University ².³Jaramogi Oginga Odinga University of Science and Technology, Kenya). Occurrence of Fungal Foliar Diseases of Tomato in Different Agro-Ecological Zones of Kirinyaga County, Kenya.
- 4) Maingi, S, Ndiiri, J. & Mati, B. (Jomo Kenyatta University of Agriculture and Technology, Kenya). Estimation of Crop Water Requirements for Garden Pea, Sweet Pepper and Tomato using the CropWAT Model in Maragua Watershed, Murang'a County, Kenya.

SUB-THEME	BUSINESS &ENTREPRENEURSHIP (A)
Chair	Dr. David Kabata
Rapporteur	Mr. Douglas Mwirigi

- 1) Orangi, A. K. & Chomba, G. (Kirinyaga University, Kenya). Influence of Pricing as Market Segmentation Strategy on Performance of Fashion Merchandising Shops in Kenya.
- **2) Okumu, A. B., Olweny, T¹, Muturi, W.** ( Jomo Kenyatta University of Agriculture and Technology, Kenya) .Nexus between Automation, Firm size and Performance of Initial Public Offering stocks at the Nairobi Securities Exchange in Kenya.
- **3) Ireri, H. K. & Njuki, E.** (Chuka University, Kenya). Politeness Strategies Used by Kenya's Members of National Assembly.

**4) Odunga, P¹**, **Odunga, P²**(¹Kirinyaga University, ²Moi University, Kenya) Impact of Tourism on the Economy of Rwanda: Social Accounting Matrix (SAM) Analysis.

SUB- THEME	BUSINESS &ENTREPRENEURSHIP (B)
Chair	Dr Stephen Kamau
Rappertour	Ms Violet Njeru

- **1) Kinoti K.** (Chuka University, Kenya) Implications of Physical Accessibility to Markets on Food and Nutrition Security in Agro Pastoral Tharaka Sub region, Kenya.
- **2) Kimemia, M.** (Kirinyaga University, Kenya) Impact of Music on Fashion. A Case of Apparel Fashion Trends among East African Artists from 2010 To-Date.
- **3) Gachichio, M.** (Kirinyaga University, Kenya). Resources for Superior Organization Performance Case of Kirinyaga Technical Institute (KTI).
- **4) Maina, M. W. & Mutiso, A. N.** (Kirinyaga University). Inflation Rate and Interest Rate Spread of Commercial Banks in Kenya.

SUB-THEME	EDUCATION & LEADERSHIP
Chair	Dr. Grace Kiiru
Rapporteur	Mr Dennis Kanyingi

- 1) Mugambi, N.D<sup>1</sup>, Munzi, M. A<sup>2</sup>, Teresia, M.W<sup>3</sup> (1.2Chuka University, <sup>3</sup>University of New South Wales, Australia). Social Cultural and Economic Factors Affecting the Practice of Secondary. Prevention among Patients with Type 2 Diabetes Mellitus at Consolata Nkubu and Meru Level Five Hospital in Meru County.
- **2) Kamau, J. K¹., Maina, M².** (¹Kenya Medical Training College, ²Kirinyaga University). The Influence of Information, Education and Communication on the Success of Human Rights Education School Programmes in Kenya.
- 3) Muiru, A, W. (Kirinyaga University). An Assessment of Personality Traits on the Prevalence of Suicide Ideation and Attempts in Public Secondary Schools in Murang'a County, Kenya.

## AFTERNOON PARALLEL SESSIONS

#### 2.00PM - 5.00PM

SUB-THEME	HEALTH & WELLNESS
Chair	Dr. Samuel Mburu
Rapporteur	Mr. Geoffrey Obondi

- 1) Njeru, K, Kagoiyo, S., Gachangi, J. N, Muthui, G. (¹Kirinyaga University, ²Kirinyaga County Referral Hospital, ³,4Jomo Kenyatta University of Agriculture and Technology).Prevalence of Wasting in Children Under Five Years Admitted at the Pediatric Ward in Kitale County Referral Hospital.
- **2) Njeru, S.K, Adoka, S.O. & Onguru, D.** (Jaramogi Oginga Odinga University of Science and Technology). Evaluation of the Determinants of Clinical Medicine Training Outcomes in Western Kenya.
- **3)** Mwaura, A.N <sup>1</sup>, Scheiner-Bobis, G<sup>2</sup>, Maoga, J<sup>1</sup>, Mecha, E<sup>3</sup>, Omwandho, C.O.A <sup>3,4</sup>, Riaz, M.A <sup>1</sup>, Lutz Konrad, L<sup>1</sup>( <sup>1,2</sup>Justus-Liebig University, Giessen, Germany <sup>1</sup>, University of Nairobi, Kenya<sup>3</sup>, Kirinyaga University, Kenya<sup>4</sup>). Analysis of ADAM12 in the Endometrium and ADAM12 levels in Serum and Endocervical Mucus of Endometriosis
- **4) Obondi, G. O.** (Kirinyaga University, Kenya). Thin Layer Chromatographic Analysis of Commonly Abused Cough-Cold Medications.

SUB-THEME	NATURAL AND PHYSICAL SCIENCES
Chair	Dr. Joseph Esekon
Rapporteur	Mr. Nathan Musembi

- 1) Oyaro, A. & Omolo, R. (Jaramogi Oginga Odinga University of Science and Technology). Arnold's Factorization Algorithm for Semi-Primes and the Crypt-analysis of RSA Cryptosystem.
- **2) Musili, M.F, Okelo, B, Ongati, O, & Magwanga, R.** (Jaramogi Oginga Odinga University of Science and Technology). Mathematical Modelling of Transmission and Re-Infection Dynamics for Covid-19 under Optimal Control Strategies.

**3)** Onyango, O., A Okelo, B & Omollo, R. (Jaramogi Oginga Odinga University of Science & Technology). Characterization of Topological Points in Big Data Sets of Hausdorff Spaces.

SUB-THEME	ICT, LIBRARY AND INFORMATION
Chair	Dr. James Mwikya
Rapporteur	Ms. Irene Mwangi

- 1) Kamau, G. & Wasike, J. (Chuka University, Kirinyaga University, Kenya). Assessment of Total Quality Management on Performance of Academic Library at Chuka University.
- **2)** <sup>1</sup>Ngereki, A. M. <sup>2</sup>Ngorobi G, W (Chuka University, Kirinyaga University, Kenya). Digital Technology in Managing Continuity for Sustainable Growth in Institutions of Higher Learning.
- **3) Mukoma**, C¹. **Mwai-Okeyo**. E², **Kiplang'at**, **J**³. (Moi University, Kenyatta University, Africa International University, Kenya). Re-Engineering of Information Services through Partnerships and Collaborations in University Libraries: The Case of Moi University, Nairobi Campus Library and American Embassy, Kenya.
- 4) Kamau, F., & Wasike, J. (Kirinyaga University, Kenya). Adoption of Big Data: A Review.

	ENTREPRENEURSHIP AND STRATEGIC BUSINESS (A)
Chair	Dr. Evelyne Maina
Rapporteur	Mr Kenneth Mureithi

- **1) Mwangi, G**\*, **& Gitau, R**· (Kirinyaga University, Kenya) Custom Duty Incentives and Financial Performance of Manufacturing Firms in Kenya.
- **2) Mosoti, D**. (Chuka County). Influence of Government Intervention Policy on Prison Population in Kenya.
- **3) Mwirigi, D, & Mutiso, A.** (Kirinyaga University, Kenya). The Effect of Longer Account Payable Days and Shorter Account Receivable Days on The Profitability of Small Retail Businesses in Kirinyaga County.

- **4) Kairu, R , Wanjiku, C.V, Gloria, C, Mwangi, P, & Githira, C.** (University of Embu). Effect of Exchange Rates on Trading Volume, Opening Prices and Closing Prices in Nairobi Securities Exchanges.
- 5) Omosa, J., Mwangi, G. Mwangi, C. & Muriithi, R. (Murang'a University of Technology, Kenya). Assessing the Influence of Talent Management Strategy on Job Satisfaction in the Lake Region Economic Bloc County Governments: A Case of Nyamira County, Kenya.

SUB-THEME	BUSINESS & ENTREPRENEURSHIP (B)
Chair	Dr. Mark Waita
Rapporteur	Mr. Gabriel Waweru

- 1) <sup>1</sup>Omare, M, Kambaga, D<sup>2</sup>. (<sup>1</sup>Kisii University, <sup>2</sup>Technical University of Kenya, Kenya). Sustainable Performance Framework Indicators for Domestic Tourism in Kenya: Case of Nakuru, Nairobi and Mombasa Towns.
- 2) Murei, R\*, Kiprop, Virate Rotich, D. (Eldoret National Polytechnic, Kenya). Influence of Needs Identification on Implementation of Cash Transfer Programmes in Kapsoya Ward, Uasin Gishu County.
- **3) Kamau, S.** (Kirinyaga University, Kenya). Evaluation of Training Programmes in Business Organizations.
- **4) Gathitu, C. W¹, Mukulu, E², Kihoro. J².** (¹.²Jomo Kenyatta University of Agriculture and Technology (JKUAT), ²Cooperative University of College of Kenya, Kenya). Influence of Youth Enterprise Development Fund Sponsored Entrepreneurship Skills Training on the Growth of Entrepreneurial Youth Group Based Enterprises in Nairobi County, Kenya.

SUB-THEME	EDUCATION &LEADERSHIP
Chair	Dr. Sophia Njeru
Rapporteur	Mr. James Kamau

1) Ngumbi, E¹., Wasike, J.M². (¹Catholic University of Eastern Africa, ²Kirinyaga University, Kenya). COVID – 19: Educational Setbacks, Lessons Learned and Way Forward for Kenya.

- **2) Muiru**, **A.** (Kirinyaga University, Kenya). Influence of Parental Ownership Strategies on the Management of Academic Performance in Secondary Schools in Imenti South Sub-County, Meru County, Kenya.
- **3) Koross, B. T**. (Turkana University College, Kenya). Influence of Resources used in Teaching English Speech Functional Writing Skills among Secondary School Learners in West Pokot County.
- **4) Amadi, O, J. (** Maasai Mara University, Kenya). The Susceptibility of Pupils to Sexual Abuse in Emesa Sub-Location, Kisii County-Kenya

**END OF CONFERENCE, 2022** 

# Kirinyaga University

5<sup>th</sup> Annual International Conference, 2022
CONFERENCE PROGRAMME

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