

## DEPARTMENT OF COMPUTING AND INFORMATICS



**Name of Staff:** Dr. Justine Oguta

**Designation/Rank:** Lecturer

**Laikipia University:** School of Science and Applied Technology

**Department:** Computing and Informatics

**School:** School of Science and Applied Technology

**Email:** [joguta@laikipia.ac.ke](mailto:joguta@laikipia.ac.ke)

**LinkedIn:** [Dr Oguta Justine PhD]

**ResearchGate:** [Dr Oguta Justine PhD]

**Google Scholar:** [Dr Oguta Justine PhD]

### A. Educational Background and Qualifications

1. **Doctor of Philosophy (PhD) in Information Technology**, Kabarak University, Kenya.
2. **Master of Science (MSc) in Information Technology**, Kabarak University, Kenya.
3. **Bachelor of Science (BSc) in Information Technology**, Kabarak University, Kenya.
4. **Diploma Computer Engineering KCA University**
5. **Cisco Certified Network Professional (CCNP).**
6. Professional Training in Embedded Systems and Internet of Things (IoT).

### B. Brief Auto-biography

Dr. Justine Oguta is a Lecturer and HOD Department of Computing and Informatics at Laikipia University, Kenya. He is an accomplished academic, researcher, and technology professional with expertise in Data Science, Artificial Intelligence, Cybersecurity, Embedded Systems, Computer Networks,

He holds a PhD in Information Technology, a Master of Science in Information Technology, and a Bachelor of Science in Information Technology from Kabarak University, Kenya. Throughout his academic and professional career, Dr. Oguta has been actively involved in teaching, research,

curriculum development, postgraduate supervision, and consultancy in computing and information technology.

His expertise spans enterprise networking, cybersecurity, data analytics, software engineering, embedded systems, and intelligent computing technologies. As a Cisco Certified Network Professional (CCNP), he possesses extensive experience in network design, implementation, administration, routing and switching technologies, network performance optimization, and network security management.

Dr. Oguta's research focuses on Artificial Intelligence, Machine Learning, Federated Learning, Cybersecurity, Decentralized Identity Systems, Embedded Systems, Internet of Things (IoT), and Data Analytics. His work seeks to develop innovative and secure computing solutions that address contemporary challenges in digital transformation, intelligent security systems, and emerging technologies.

He has participated in multidisciplinary research projects and academic initiatives aimed at advancing digital innovation, data-driven decision-making, and sustainable technology adoption. His research contributions continue to support the development of secure, intelligent, and resilient digital ecosystems.

Beyond academia, Dr. Oguta is passionate about mentorship, community development, and youth empowerment through sports as a **CAF C Licensed coach** specializing in **age-grade youth soccer development, athletic mentorship, and holistic player growth**. He blends technical coaching with psychological insight to build resilient, skilled athletes and responsible young leaders.

### **C. Areas of Specialization**

1. Data Science and Analytics
2. Artificial Intelligence and Machine Learning
3. Cybersecurity and Information Assurance
4. Embedded Systems and Internet of Things (IoT)
5. Computer Networks and Network Security (CCNP)

6. Software Engineering and System Development
7. Digital Transformation and ICT Innovation
8. Federated Learning and Intelligent Security Systems
9. Database Systems and Big Data Technologies

#### **D. Research Interests**

1. Artificial Intelligence and Machine Learning Applications
2. Cybersecurity and Intelligent Intrusion Detection Systems
3. Federated Learning and Distributed Intelligence
4. Decentralized Identity Management Systems
5. Blockchain Technologies and Digital Trust Frameworks
6. Embedded Systems and Smart Device Applications
7. Internet of Things (IoT) and Smart Environments
8. Computer Networks and Network Security
9. Data Science and Predictive Analytics
10. Digital Transformation and Emerging Technologies
11. Smart Systems and Sustainable Computing
12. Higher Education Technology and Innovation
13. ICT for Community Development and Youth Empowerment

#### **Journal Articles**

- **A Design of an RFID Based Microcontroller Integrating Real Time Media Auto-Stream for Vehicle Packing** (2021). Published in the *International Journal of Computer Applications Technology and Research*.
- **An RFID Embedded Micro-controller Based Media Integration Auto- Stream Framework for Car Packing** (2020). Presented at AISEA.
- **Analyzing Clickstream Data Implications for Data Privacy and Data Protection**  
authors: J Munyoki, J Oguta, H Wangondu 2025 Academia.edu

## **The Book: On Cloud Computing**

Dr. Oguta also published a book in 2024 on the application of cloud computing in higher education.

- **Title:** *Kostengünstiges Cloud Computing für die Bereitstellung von IT-Diensten* (which translates from German to "Cost-Effective Cloud Computing for the Provision of IT Services").
- **Context:** The book addresses a specific challenge faced by public universities: the high cost of purchasing and maintaining IT systems, which quickly become outdated. These institutions often have multiple campuses but limited budgets.
- **Proposed Solution:** It explores how cloud computing can offer a more affordable solution for delivering essential IT services. These services include enterprise application systems, library systems, examination and data management, and student/staff portals.