KARATINA UNIVERSITY

STAFF PROFILE

PERSONAL DETAILS

Dr. Harriet Loice Tsinale
Head of Department, Computing | Lecturer
School of Computing and Informatics
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RESEARCH PROFILE

1. AD Scientific Index ID: 4811608 - https://adscientificindex.com/scientist/tsinale-loi/4811608/
2. https://orcid.org/0000-0001-7007-7845
3. https://scholar.google.co.th/citations?hl=en&user=wW7XMT0AAAAJ&view_op=list_works
4. https://www.researchgate.net/profile/Harriet-Tsinale
5. www.linkedin.com/in/dr-harriet-tsinale-41254b21

RESEARCH AND DEVELOPMENT INTERESTS

- Curriculum development, evaluation, and review in Computing
- Interactive Systems and Human-Centered Computing
- Cybersecurity and Information Assurance
- Programming and Software Development
- Integration of AI, robotics, and emerging technologies
- E-learning instructional design and blended learning models
- Academic quality assurance and ISO 9001:2015 auditing experience
- Examination management and curriculum aligned assessments

TECHNICAL EXPERIENCE

- Programming: Proficient in C++, C, Java, Python, C#, PHP, HTML, JavaScript, and SQL
- Cybersecurity and Information Assurance: cryptography, network and systems security, secure cloud computing, data protection, and ISO 9001:2015 quality compliance.
- Human Computer Interaction and Interactive Systems
- Database: MYSQL, Microsoft SQL server and SQLite.
- AI and Robotics: Artificial Intelligence Analyst (2019 Award), Embedded Systems, Real Time Systems, Computer Vision
- Computer networks, operating systems, distributed systems, and network administration
- E-learning instructional material design and management
- Academic Quality Assurance Tools

BIOGRAPHY

Dr. Harriet Loice Tsinale is a seasoned Kenyan academic, researcher, and academic leader with over ten years of experience in university teaching, research, curriculum development, academic administration, and quality assurance in Computer Science and Information Technology. She is currently a Lecturer in the Department of Computing at Karatina University, where she also serves as the Head of the Computing Department. In this role, she is responsible for teaching, curriculum development and review, postgraduate and undergraduate research supervision, programme evaluation and accreditation, and student mentorship.

Dr. Tsinale holds a Doctor of Philosophy (PhD) in Information Technology, a Master of Science in Information Technology, and a Bachelor of Science in Computer Science. Her academic and professional career demonstrates a strong commitment to advancing computing education, research excellence, and institutional quality standards.

Prior to her current appointment, Dr. Tsinale served as a Lecturer at Kirinyaga University, and as a Lecturer and Examination Officer at Tharaka University, where she managed teaching, examinations, project supervision, academic advising, and guided students in program specialization and career development. She also held the position of Tutorial Fellow at Tharaka University, performing similar teaching, supervision, and student mentorship duties.

Dr. Tsinale has held several senior academic leadership roles at Mount Kenya University, including Head of Department for Information Technology and Information Science and Knowledge Management, where she coordinated accreditation processes, ensured compliance with Commission for University Education (CUE) standards, implemented departmental policies, and oversaw teaching and research quality. She also served as a Tutorial Fellow with added responsibilities as an Academic Advisor and ISO 9001:2015 Auditor, conducting quality audits and supporting academic compliance. Earlier in her career, she held positions as Head of Department (Information Technology), Teaching Programme Coordinator, and Graduate Assistant with responsibilities in teaching, timetabling, quality management systems, and academic reporting.

In addition to her academic roles, Dr. Tsinale has practical industry and institutional experience as a System Administrator, having worked at Kaimosi Teachers' College and during her internship at Libya Oil Kenya (Oilibya). In these roles, she gained hands-on experience in networking, systems administration, server management, backups, ICT asset management, and end-user training.

Throughout her career, Dr. Tsinale has demonstrated strong expertise in programming, databases, computer networks, operating systems, cybersecurity, artificial intelligence, and interactive systems. She is deeply committed to high quality teaching, rigorous and ethical research supervision, curriculum relevance, and the professional development of students. Her work reflects a strong dedication to advancing computing education, research, and academic standards at both national and international levels.

PUBLICATION

1. Architectural Health Data Standards and Semantic Interoperability: A Comprehensive Review in the Context of Integrating Medical Data into Big Data Analytics (2023). International Journal of Engineering Applied Sciences and Technology. Vol. 8, Issue 4, Pages 17-30. Doi:10.33564/Ijeast.2023.V08i04.002
2. Effective Approaches for Enhancing Data Management and Semantic Interoperability within the Healthcare Sector (2023). International Journal of Applied Research, Vol. 9, Issue 9, Pages 01-06. https://doi.org/10.22271/allresearch.2023.v9.i9a.11225
3. Usability of Big Data Analytics within Clinical Decision Support Systems (2019). International Journal of Engineering Applied Sciences and Technology, Vol. 4, Issue 5, Pages 64-73. DOI: 10.33564/IJEAST.2019.v04i05.010
4. Security and Privacy Determinants for a Secured Cloud-Based Electronic Health Record System (2019). International Journal of Engineering Applied Sciences and Technology, Vol. 4, Issue 3, 35-47. DOI: 10.33564/IJEAST.2019.v04i03.005
5. Application Lifecycle Management Activities for Quality Assurance in Software (2017). Development in International Journal of Trend in Research and Development, Vol. 4, Issue 2, ISSN No 2394-9333, Pages 211 – 224.
6. Performance expectancy as a determinant for cloud computing acceptance in Kenyan Public Universities (2016). International Journal of Applied Research, Vol. 2, Issue 8, ISSN No. 2394-5869, Pages 353-363

CONFERENCE PROCEEDINGS

1. Tsinale, H. L., Mbuguah, S., & Luvanda, A. (2023). An Architectural Framework for Integrating Medical Data to Big Data Analytics for Semantic Interoperability. 6th Biannual International Conference. Nairobi: Kibabii University.
2. Tsinale, H. L., Mbuguah, S., & Luvanda, A. (2023). Emerging Challenges of Integrating Medical Data to Big Data Analytics. 6th Biannual International Conference. Nairobi: Kibabii University.

AWARDS

1. Artificial Intelligence Analyst Mastery Award (2019) – IBM
2. Active Participation and Service Award (One Year) – Cisco Networking Academy

ACADEMIC QUALITY ASSURANCE PROCESSES

1. Assessment Tool Validator, TVET Curriculum Development, Assessment and Certification Council (TVET CDACC)
2. Chairperson, Panel for the Review of the Bachelor of Human–Computer Interaction (Honours) Level 8 Programme, Namibia University of Science and Technology (NUST), under the National Council of Higher Education (NCHE), Namibia

MEMBERSHIP

1. Internet Society
2. Association for Computing Machinery
3. Association of Computing Practitioners Kenya