



Martha Ndeyapeuomagano Kamkuemah

Academic qualifications

present **PhD Mathematics**, *Stellenbosch University*.

abstract *An analysis of security in distributed systems.* Security is hard to maintain in distributed systems especially for communicating agents restricted to lightweight computations, as in the Internet of Things, which struggle to implement strong cryptographic security. A framework is developed for specifying and reasoning about security in such systems which uses epistemic logic and a state-based formalism. The knowledge modality K is used to define authentication and secrecy in terms of what each agent knows. The definitions are used to highlight known weaknesses in the Needham-Schroeder, Signal and Long Range Wide Area Network protocols, and to verify their mitigations.

2013 **MSc Computer Science**, *University of Cape Town*, Cape Town.

2008 **BSc (Hons) Computer Science**, *University of Cape Town*, Cape Town.

2004 **BSc Computer Science**, *University of Cape Town*, Cape Town.

Professional qualifications

2018 **Assessor**, South African Qualifications Authority (SAQA).

Conducting outcomes-based assessment

Work experience

2017-2019 **Data Scientist**, at *Ixio Analytics*.

duties

- Developing content for the Data Analytics and Visulation, Machine Learning and Big Data modules.
- Delivering content to learners.

2014-June **Head Tutor**, at *African Institute for Mathematical Sciences*.

2016

administration

- Facilitating tutor academic activities.
- Facilitate activities between lecturers and students.
- Managing student affairs.
- Overseeing structured MSc research projects.

2014-June **Tutor**, *African Institute for Mathematical Sciences, Muizenberg*.

2016

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tutored Programming with Python; Algorithm Design; Data Science; Differential Equations; Abstract Algebra; Computational Algebra; Design, Matroids and Graphs; Linear Algebra; Statistics; Experimental Mathematics; Systems Biology; Quantum Mechanics; and Quantum Computing.

2005-2010 **Analyst Programmer**, *Namibia Power Corporation*.

- duties
 - o Developing SAP Plant Maintenance reports.
 - o Maintaining company websites.

Teaching experience

2017-present **Python Lecturer**, *at African Institute for Mathematical Sciences*.

- duties
 - o Designing teaching material, exercises and exercise solutions.
 - o Delivering content to structured Masters students.

Publication record

2013 **Routing in Mobile Phone Ad Hoc Networks**, *Martha Kamkuemah & Hanh Le*, CICSyN 2013, 316-321.

2013 **A Study of Different Routing Protocols for Mobile Phone Ad Hoc Networks Connected via Bluetooth**, *Martha Kamkuemah & Hanh Le*, UKSim 2013, 681-686.

Leadership positions

2014-2016 **Head Tutor**, *African Institute for Mathematical Sciences*.

Community engagement

2019-2020 **Parish Council Member**, *St. Paul's Church*.

2017-now **Usher**, *St. Paul's Church*.

References

Jeff Sanders, *PhD Thesis Supervisor*
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