

# AQUILLAH M. KANZI, Ph.D.

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## EDUCATION

### University of Pretoria, Pretoria, South Africa

- Post-doctoral fellow with SARChI Chair in Fungal Genomics Prof. Brenda Wingfield, July 2017 – present

### University of Pretoria, Pretoria, South Africa

- Graduate research with Dr. Albé van der Merwe, June 2013 – June 2017
- Ph.D. in Genetics, September 2017  
Thesis: Comparative genomics of *Chrysosporthe* species

### Rhodes University, Grahamstown, South Africa

- Graduate research with Prof. Özlem T. Bishop, Feb 2012 - Dec 2013
- MSc. Bioinformatics and Computational Molecular Biology, Apr 2013  
Thesis: Falcipains as malarial drug targets

### Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya

- Undergraduate study, Apr 2005 - Dec 2008
- BSc. Medical Microbiology (First Class Honours), July 2009  
Dissertation: Screening for beta-lactamase inhibitor resistant phenotype in gram negative clinical isolates in Nairobi

## RESEARCH EXPERIENCE

### University of Pretoria, South Africa, July 2017 – Present      Post-doctoral research

**Project:** Comparative genomics of fungal mitochondrial genomes

### University of Pretoria, South Africa, July 2013 - June 2017      PhD research

**Project:** Comparative genomics of *Chrysosporthe* species

**Project output:**

- Characterised the mating system of *Chrysosporthe* species and characterised factors that could have shaped the evolution of the mitochondria and *Chrysosporthe* species

### Rhodes University, South Africa, Feb 2012 - Apr 2013      MSc research

**Project:** Falcipains as malarial drug targets

**Project output:**

- Developed an *in silico* pipeline for virtual screening of non-peptide compounds against plasmodium Falcipains

*Aquillah M. Kanzi*

- Identified compounds with potential inhibitory activity against plasmodium falciparum

**University of Washington HIV acquisition during and after pregnancy Study - Kisumu, Kenya Jan 2013 - May 2013**

**Position: Research Assistant**

- **Role:** Managing the clinical laboratory's sample Laboratory Information Management System (LIMS)

**Centres for Disease Control and Prevention - Kenya Medical Research Institute (CDC-KEMRI) HIV Research Laboratory Kisumu, Kenya, Feb 2010 – May 2011**

**Position: Research assistant**

- **Role:** Perform HIV-1 sequencing, drug resistance profiling and genotyping support for ongoing clinical studies including Kisumu Incidence Cohort Study (KICoS) and Kisumu Breastfeeding Study (KiBS)

**Kenya Medical Research Institute - Centre Microbiology Research (KEMRI-CMR), Nairobi, Kenya, April 2008 - Apr 2009**

**Position: Research assistant**

- **Role:** Conducting research work for my BSc degree dissertation "Screening for beta-lactamase inhibitor resistant phenotype in gram negative clinical isolates in Nairobi"

## TEACHING EXPERIENCE

- Tutor GTS 354 (Genomes and molecular evolution) Department of Genetics, University of Pretoria (2014 – present)
- Facilitator TPCP/CTHB Phylo- and Comparative genomics at FABI, University of Pretoria (21-25 November 2016)
- Mentoring undergraduate students intending to join post-graduate studies under the CTHB mentorship program, University of Pretoria

## PUBLICATIONS

**Kanzi AM**, Wingfield BD, Steenkamp ET, Naidoo S and Van der Merwe NA. Intron Derived Size Polymorphism in the Mitochondrial Genomes of Closely Related *Chrysopertha* Species. *PloS One*. 2016 Jun 6;11(6):e0156104.

Musyoka TM, **Kanzi AM**, Lobb KA and Bishop ÖT: Structure Based Docking and Molecular Dynamic Studies of Plasmodial Cysteine Proteases against a South African Natural Compound and its Analogs. *Scientific Reports* 03/2016; 6:23690. DOI:10.1038/srep23690

Musyoka TM, **Kanzi AM**, Lobb KA, Bishop ÖT: Analysis of Non-Peptidic Compounds as Potential Malarial Inhibitors against Plasmodial Cysteine Proteases via Integrated Virtual Screening Workflow. *Journal of biomolecular Structure & Dynamics* 01/2016; DOI:10.1080/07391102.2015.1108231

Wingfield BD, Irene Barnes, De Beer ZW, De Vos L, Doung TA, **Kanzi AM**, Kershney Naidoo, Nguyen HDT, Santana QC, Mohammad Sayari, Seifert KA, Steenkamp ET, Conrad Trollip, Van der Merwe NA, Van der Nest MA, P Markus Wilken, Wingfield MJ: Draft genome sequences of *Ceratocystis eucalypticola*, *Chrysosporthe cubensis*, *C. deuterocubensis*, *Davidsoniella virescens*, *Fusarium temperatum*, *Graphilbum fragrans*, *Penicillium nordicum*, and *Thielaviopsis musarum*. *IMA Fungus*, 12/2015; 6(2):493-506.  
DOI:10.5598/imafungus.2015.06.02.13

Wingfield BD, Ades PK, Al-Naemi FA, Beirn LA, Bihon Wubetu, Crouch Jo Anne, de Beer ZW, De Vos Lieschen, Duong TA, Fields CJ., Fourie Gerda, **Kanzi AM**, Malapi-Wight Martha, Pethybridge SJ, Radwan Osman, Rendon Gloria, Slippers Bernard, Santana QC, Steenkamp ET, Taylor PWJ, Vaghefi Niloofar, Van der Merwe NA, Veltri Daniel, Wingfield MJ: Draft genome sequences of *Chrysosporthe austroafricana*, *Diplodia scrobiculata*, *Fusarium nygamai*, *Leptographium lundbergii*, *Limonomyces culmigenus*, *Stagonosporopsis tanacetii*, and *Thielaviopsis punctulata*. *IMA Fungus*, 06/2015; 6(1):233-248.  
DOI:10.5598/imafungus.2015.06.01.15

## CONFERENCE PRESENTATIONS

**Genome sequencing reveals a heterothallic mating system in the Eucalyptus pathogen *Chrysosporthe austroafricana*** presented at the 7th Forest Science Symposium, July 18-20, 2017, Pietermaritzburg, South Africa.

**Genome sequencing reveals a heterothallic mating system in the Eucalyptus pathogen *Chrysosporthe austroafricana*** presented at the 85th Annual Meeting of the Mycological Society of America, July 16-19, 2017, Georgia, USA.

**Genome sequencing reveals a heterothallic mating system in the Eucalyptus pathogen *Chrysosporthe austroafricana*** presented at the 29th Fungal Genetics Conference (Fungal Genetics Society of America), March 14-19 2017, California, USA.

**Size polymorphism in the mitochondrial genomes of closely related *Chrysosporthe* species** presented at The Genomics Research Institute Symposium, October 29 2015, University of Pretoria, Pretoria, South Africa.

**Size polymorphism in the mitochondrial genomes of closely related *Chrysosporthe* species** presented at The EMBO conference (Exploring the genomic complexity and diversity of eukaryotes), October 17-22 2015, Barcelona, Spain.

**Profiling the structural elements and the energetics involved in the binding of small non-peptide compounds onto Plasmodium and human cysteine proteases using computational approaches.** The 23rd annual International conference on Intelligent Systems for Molecular Biology (ISMB) and The 14th European Conference on Computational Biology (ECCB), Dublin, Ireland. 10-14 July 2015.

**Structural elements and the energetics involved in the binding of non-peptide compounds onto Plasmodium and human proteases.** The 11th 3DSIG 2015 Structural Bioinformatics and Computational Biophysics meeting, The Convention Centre, Dublin, Ireland. 10-11 July 2015.

***In silico* based methodology to determine the broad inhibitory potency of non-peptidic compounds against plasmodial cysteine proteases.** Pan Africa Chemistry Network (PACN) Congress 2014 - Biodiversity and Global Challenges, A Chemical Sciences Approach, Nov 30-Dec 2 2014, UN Conference Centre, Ethiopia.

**Falcipains as malarial drug targets** presented at the South African Genetics and Bioinformatics and Computational Biology conference (The Data-Mining Revolution) September 10-12 2012, Stellenbosch, South Africa

**Screening for beta-lactamase inhibitor resistant phenotype in gram negative clinical isolates in Nairobi** presented at the Physical and Biological Sciences for industrial and socio economic development conference, May 8-10 2009, Nairobi, Kenya.

## AWARDS AND HONOURS

- Rhodes Henderson Bioinformatics Scholarship Award 2012
- University of Pretoria Postgraduate bursary 2013 – 2016
- University of Pretoria Postgraduate Travel Grant 2015
- European Molecular Biology Organization (EMBO) Conference travel grant 2015

## REFERENCES

Prof. Brenda D. Wingfield,  
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Department of Genetics  
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