ABBREVIATED CURRICULUM VITAE OF MARGUERITE BLIGNAUT

Personal information

Surname	Blignaut
First names	Marguerite
ORCID ID	0000-0001-7645-9780

Main Areas of Professional Expertise and Experience:

My main areas of expertise are in biological, cardiovascular, genetic and biochemical laboratory-based research with a strong background in molecular biology. I am interested in the post-transcriptional regulation of signalling pathways, cellular metabolism and mitochondrial function in a cardiovascular context. My research focus on the characterisation of molecular pathways as well as mitochondrial function and dynamics, focussing specifically on Ataxia Telangiectasia Mutated protein kinase, as a potential biomarker and treatment target in cardiovascular disease. I use *in vitro* cell-based studies, *ex vivo* animal models and microscopy to study these molecular pathways.

Work experience

2021-current	Researcher: Centre for Cardio-metabolic Research in Africa (CARMA)
2019 - 2020	Post-Doctoral Research Fellow: Division of Medical Physiology, Stellenbosch University
2016 - 2020	Lecturer's assistant: Division of Medical Physiology, Stellenbosch University

Societies and affiliations

2016 - current	Physiological Society of Southern Africa (PSSA)
2009 - 2010	South African Society for Biochemistry and Molecular Biology (SASBMB)
2011 - 2015	Epigenetics Society

Research Outputs:

Peer Reviewed Journal Articles:

Blignaut, M., Harries, S., Lochner, A., Huisamen, B. Ataxia-Telangiectasia Mutated protein kinase: potential master puppeteer of oxidative stress-induced metabolic recycling (2020) *Oxidative Medicine and Cellular Longevity,* .

Dube, K., Dhanabalan, K., Salie, R., **Blignaut, M**., Huisamen, B., Lochner, A. Melatonin has profound effects on mitochondrial dynamics in myocardial ischaemia/reperfusion (2019) *Heliyon* 5 (10), e02659

Blignaut, M., Loos, B., Botchway, SW., Parker, AW., Huisamen, B. Ataxia-Telangiectasia Mutated protein kinase is located on the inner mitochondrial membrane of rat cardiac mitochondria (2019) *Scientific Reports*, 9, 4782. DOI:10.1038/s41598-019-41108-1

Blignaut, M., Espach, Y., van Vuuren, M., Dhanabalan, K., Huisamen, B. Revisiting the cardiotoxic effect of chloroquine (2019) *Cardiovascular Drugs and Therapy*; 33(1):1-11. DOI:10.1007/s10557-018-06847-9

Le Roux, JJ., **Blignaut, M.**, Gildenhuys, E., Mavengere, N., Berthouly-Salazar, C. The molecular ecology of biological invasions: What do we know about non-additive genotypic effects and invasion success? (2013) *Biological Invasions*, 16, 997–1001. DOI: 10.1007/s10530-013-0568-y

Blignaut, M., Ellis, A., Le Roux, J.J. Towards a transferable and cost-effective plant AFLP protocol (2013) *PLoS ONE*, 8(4). e61704. doi:10.1371/journal.pone.0061704

du Preez, J., Stephan, D., **Blignaut, M**., Stander, C., Vivier, M.A., Goszczynski, D.E., Mawassi, M., Burger, J.T. The characterisation of virus-based vectors for functional genomic studies in grapevine (2010) *Australian Journal of Grape and Wine Research*, 16 , A68.

Book Chapter:

Blignaut, M. (2012) Review of Non-coding RNAs and the epigenetic regulation of gene expression: Drivers of Natural Selection by Kevin Morris (editor). Epigenetics, 7:6

Popular Science Article:

Blignaut, M (2020) Why it's vital to look beyond the hype about repurposed malaria drugs. The Conversation. https://theconversation.com/why-its-vital-to-look-beyond-the-hype-about-repurposed-malaria-drugs-139153

International Conferences:

Blignaut, M., Loos, B., Botchway, SW., Parker, AW., Huisamen, B. (2019) Ataxia-Telangiectasia Mutated is located in cardiac mitochondria and impacts oxidative phosphorylation. 18th International Ataxia-Telangiectasia Workshop, Houston, Texas, USA. 1-4 May

Huisamen, B., **Blignaut, M**., Engelbrecht, A-M., Lochner, A. (2019) ATM regulates cardiac mitophagy. 18th International Ataxia-Telangiectasia Workshop, Houston, Texas, USA. 1-4 May

Botha, D., Blignaut, M., Huisamen, B. (2019) A potential mechanism of cardiac ATM down-regulation in obesity and insulin resistance: are microRNAs the molecular middlemen? 47th Physiology Society of Southern Africa Annual Conference, ICC, East London, 18th-21st August

Huisamen, B., Blignaut, M., Lochner, A. (2019) ATM regulates cardiac mitochondrial oxidative phosphorylation potential. Society for Heart and Vascular Metabolism, Amsterdam, Netherlands. 23-26th June

Blignaut, M., Lochner, A., Engelbrecht, A-M., Huisamen, B (2019). Ataxia-telangiectasia mutated (ATM) protein kinase mediates autophagy and mitochondrial dynamics in the heart, 47th Physiology Society of Southern Africa Annual Conference, ICC, East London, 18-21st August

Blignaut, M., Lochner, A., Engelbrecht, A-M., Huisamen, B. (2019) Cardiac autophagy and mitophagy in obesity is mediated by ATM. 4th European-SA Cardiovascular Workshop held in conjunction with 6th International New Frontiers in Cardiovascular Research workshop, STIAS, Stellenbosch, 1-4th April

Huisamen, B., Blignaut, M. (2019) ATM and metabolic protection of the heart. 4th European-SA Cardiovascular Workshop held in conjunction with 6th International New Frontiers in Cardiovascular Research workshop, STIAS, Stellenbosch, 1-4th April

Huisamen, B., **Blignaut, M**., Lochner, A. (2017) ATM regulates cardiac mitochondrial oxidative phosphorylation potential, Frontiers in CardioVascular Biology 2018, Vienna, Fifth Congress of the ESC Council on Basic Cardiovascular Science, Cardiovascular Research (S22)

Blignaut, M., Lochner, A., Huisamen, B. (2017) The role of mitochondrial ATM in cardiac oxidative phosphorylation and obesity. Keystone Symposium on Mitochondria, Metabolism and Heart, Santa Fe, New Mexico, USA, May 8 - May 12th

Blignaut, M., Le Roux, J. J., Ellis, A., Esler, K. (2011) Comparative epi-genetic and genetic population structure of the highly invasive bunch grass, Pennisetum setaceum along an environmental gradient in South Africa. 11th International Conference on the Ecology and Management of Alien Plant Invasions, Szombathely, Hungary

Blignaut, M., Louw, A. (2009) The implications of glucocorticoid receptor dimerization at diverse models of glucocorticoid transcription. 10th Baltic Summer School: Genetic basis of Medicine, Kiel, Germany

Du Preez, J., Stephan, D., **Blignaut, M**., Stander, C., Vivier, M. A., Gozszcynski, D., and Burger, J. T. (2008) The characterization of virus-based vectors for functional genomic studies in grapevine. Eighth international symposium on grapevine and biotechnology, Adelaide, Australia.

Local Conferences:

African Laser Centre workshop on laser spectroscopy and laser imaging, Stellenbosch (2019): invited lecture

Conference of the Physiology Society of Southern Africa (2016, 2018, 2020, 2021): first author presentations

Trilateral Mitochondrial Workshop (UK-Egypt-SA): Enhancing physiological understanding of exercise and obesity: designing personalized intervention strategies. Stellenbosch (2017): first author poster presentation

Student supervision:

- BSc honours: Graduated seven students as supervisor and co-supervisor. Currently supervising 2 hons students and co-supervising 1 hons student
- MSc: Miss Danelle Botha (co-supervisor, awarded 2021, cum laude). Currently supervising 1 MSc student, and co-supervising four MSc students.
- PhD: Currently co-supervising 1 PhD student

Successful grant applications:

- 2016: Harry Crossly Foundation project funding (SU-PT-16/10-00012);
- 2017-2022: Stellenbosch University small equipment grant funding
- 2022: Early Career Research Funding: Faculty and Medicine and Health Sciences, Stellenbosch University

International and local collaborations:

- Self-initiated international collaboration with Rutherford Appleton Laboratories, Science and Technology Facility Council in Didcot, Oxfordshire. This Newton-funded collaboration has yielded one publication and a four month visit to RAL in January 2018 as well as a follow up visit in September 2019.
- Collaboration with Dr Hannibal Musarurwa (Walter Sisulu University) on gut microbiota changes in obesity (2020-2022)

Leadership Roles

2019 - 2020	Vice-chairperson (Faculty of Medicine and Health Sciences) of the Postdoctoral Society, Stellenbosch University
2006	Vice-chairperson of the Natural Science Student Council, Stellenbosch University

Community work:

2014 - 2019	Volunteer at Cheetah outreach, Somerset west