

Biography:**Short Biography & Current Interests:**

I have been involved in research centred mainly on the cardiovascular complications of the metabolic syndrome and diabetes for the past 18 years. In my quest to understand the changes occurring in the development of insulin resistance, I have utilized several animal models spanning both type 1 and type 2 diabetes as well as pre-diabetes and hypertension. These models were implemented in our laboratory and extensively characterized. My main focus has always been on the signalling elicited by insulin and the consequences of disrupting these pathways as is seen in the onset and development of insulin resistance.

In addition, I have tested the effects of different pharmaceutical substances used in clinical treatment of diabetes (e.g. AngIIIR blockers, DPP-4 inhibitors, GSK-3 inhibitors) as well as plant-based remedies, on different pathologies associated with especially obesity-induced type 2 diabetes. These include studies on whole-body effects, skeletal muscle, cardiovascular as well as pancreatic effects. Because of the different animal models representing obesity, diabetes and/or hypertension that we have characterized and used in research, I have been approached on different occasions by companies marketing plant-based remedies to test the efficacy of these remedies on (i) insulin resistance and blood glucose handling (ii) cardiovascular effects (iii) anti-hypertensive effects and (iv) toxicity. This has resulted e.g. in a large study on *Prosopis glandulosa* and a study on the anti-diabetic potential of *Agathosma*.

I have won the following awards and prizes: Awarded the Wyndham prize for the best address by a young scientist at the Annual congress of the PSSA; awarded a grant for the best address by a young scientist over a four year period, at the Annual congress of the PSSA by the IUPS to attend the XXXII Congress of the IUPS in Glasgow, Scotland; awarded the Francie van Zijl medal for the best address at the Tygerberg Academic Day; Nominated as one of six papers to compete for the outstanding investigators award at the XIX congress of the SA Cardiac Society; Awarded a Servier Investigator Award for a poster at the Satellite Symposium of XVth World Congress of the ISHR on Signal transduction in Normal and Diseased Myocardium in Rotterdam, The Netherlands; twice awarded the A.J. Brink trophy for an outstanding address at the Tygerberg Academic Day; 4 times awarded the prize for the best publication in the field of basic research in Diabetes at the annual SEMDSA conference; awarded the Pfizer prize for best paper presented in cardiovascular research – basic sciences – at the annual Tygerberg Academic Day; received the JN de Klerk trophy as prize for an outstanding poster – presented at the annual Tygerberg Academic Day; awarded a prize for the best poster presentation at the annual Physiology conference of SA.

I have been chairperson of the committee for the ethical use of animals in research at the Faculty of Health Sciences, Tygerberg (2005-2009) and member of the MRC committee for the ethical use of animals in research (2005-present). I have served on the MRC grants committee as well as on the NRF SARChi committee. I am a member of the Society for Heart and Vascular Metabolism, SEMDSA, and the SA Heart Association and executive member of the PSSA. I am currently serving on the board of reviewers of the Cardiovascular Journal of Africa and on the editorial panel the OMICS journal for pancreatic disorders and therapy.

I have reviewed publications for the following journals: The Cardiovascular Journal of Africa, Cardiovascular Drugs and Therapy, Cardiovascular Research, Heart, SA Heart, Diabetes Obesity and Metabolism, BMC Cardiovascular Disorders, PLOS, American Journal of Physiology, Pharmacological Research Reviews, Molecular & Cellular Biochemistry, Journal of Clinical Investigation.

