

CURRICULUM VITAE

PERSONAL DETAILS	Dr. Rabia Johnson Female South African Tell: (Office) +27 21 938 0866 (Mobile)+27 82 0677296 Email: rabia.johnson@mrc.ac.za
Present Position	South African Medical Research Council Deputy Director: Biomedical Research and Innovation Platform Group Leader: Diabetes and Cardiovascular Risk Contact Address: Francie van Zijl Drive Parow Valley, PO Box 19070 Cape Town, 7505 South Africa

	NRF Rating	NRF C2 rated Scientist
1	Qualifications	In progress: <ul style="list-style-type: none"> ▪ BA (Honours), Business Management, University of Lincoln, 2020 completed. Graduation Jun 2021 ▪ NQF7 Business Management. Diploma. University of Stellenbosch Business School, 2018 ▪ NQF6; Advance Health Management Program, Department of Education, Foundation for Professional Development (FPD), Co -certified Yale School of Public Health, 2015 ▪ Ph.D.; Medical Biochemistry, Stellenbosch University, 2007 ▪ MSc; Biotechnology, University of Western Cape, 2002 ▪ BSc (Honours); Biochemistry, University of Western Cape, 2000 ▪ BSc; Biochemistry, Microbiology and Medical Microbiology, University of Western Cape, 1999
2	Appointments and Advisory Committee	<ul style="list-style-type: none"> ▪ Extraordinary Associated Professor: Medical Physiology, Department of Biomedical Science, University of Stellenbosch, 2020-current ▪ NRF Rating Specialist Committee Member: Biochemistry and Molecular and Cell Biology Panel. 2019-2023 ▪ NRF Thuthuka Health Panel member: 2014-2019 ▪ NRF Scientific Reviewer: 2014-current ▪ SA Heart Conference committee member: 2020-current ▪ SASCA Exco Member: 2020-current ▪ SAMRC ECRA Scientific Review: 2016-2018 ▪ SAMRC Reviewer Grant innovation and product development 2018-current ▪ RCD: Self-Initial Research Grants reviewer • External moderator UWC: Biochemistry Honors Program, 2019-current
3	Local Patent	Local Patent in process: Prior art assessment: Identification of sub-clinical biomarkers that predict the risk of developing diabetic cardiomyopathy: Patent application number [SPOORSA-sa_cases.0151425.PA172287/P] Filled December 2019 Contact: Dr. Mulder (Michelle.mulder@mrc.ac.za), Grants Innovation and Product Development (GIPD), SAMRC.
4	Publications	<u>ISI Peer-reviewed publications</u> Publications: 57 Book Chapter: 2 First/Last author: 29 Co-author:26 H-Index 20 (Scopus) as at January 2021 https://www.scopus.com/authid/detail.uri?authorId=57000710900 <ol style="list-style-type: none"> 1. R Johnson, Nxele X, Jooste T, Samodien E, Benjeddou M, Mazino M. Identification of potential biomarkers for predicting the early onset of diabetic cardiomyopathy in a mouse model. Scientific reports. 2020;10(1). 2. R Johnson, C J F Muller, S Ghoor, J Louw, E Archer, S Surujal-Naicker, N Berkowitz, M Volschenk, L H L Bröcker, G Wolfaardt, M van der Walt, A M Mutshembele, S Malema, H C Gelderblom, M Muhdluli, G Gray, A Mathee, R Street (2020). Qualitative and quantitative detection of SARS-CoV-2 RNA in untreated wastewater in Western Cape Province, South Africa . South African Medical Journal 2021;111(3):198-202. 3. Sangweni NF, Moreman M, Riedel S, Huisamen B, Mabasa L, Barry R, Johnson R. The Prophylactic Effect of Pinocembrin Against Doxorubicin- Induced Cardiotoxicity in an In Vitro H9c2 Cell Model. Frontiers in pharmacology. 2020;11. 4. Shabalala SC, Mabasa L, Kappo AP, Basson AK, Pheiffer C, Johnson R. The effect of adiponectin in the pathogenesis of the non-alcoholic fatty liver disease (NAFLD) and the potential role of polyphenols in the modulation of adiponectin signaling. Biomed Pharmacother. 2020(0753- 3322).

5. Erasmus M, Samodien E, Lecour S, Cour M, Lorenzo O, Dlodla P, **R Johnson**. Linking LOXL2 to Cardiac Interstitial Fibrosis. *International journal of molecular sciences*. 2020;21(16).
6. Sharma, J.R., Mabhida, S.E., Myers, B., ...Muller, C., **Johnson, R.** (2021) Prevalence of hypertension and its associated risk factors in a rural black population of Mthatha town, South Africa. *International Journal of Environmental Research and Public Health*, 2021, 18(3), pp. 1–17, 1215
7. Xhakaza L, Abrahams-October Z, Mohammednur MM, Pearce B, Adeniyi OA, R Johnson, M Benjeddou. Socio-demographic and modifiable risk factors of diabetes and hypertension among resource-constrained patients from rural areas in Mdantsane Township in South Africa. *African Health Sciences*. 2020.
8. Xhakaza L, Abrahams-October Z, Pearce B, Masilela CM, Adeniyi OV, **Johnson R**, Ongole JJ, Benjeddou M. Evaluation of the suitability of 19 pharmacogenomics biomarkers for individualized metformin therapy for type 2 diabetes patients. *Drug Metab Pers Ther*. 2020 Jun 30;35(2):/j/dmdi.2020.35.issue-2/dmpt-2020-0111/dmpt-2020-0111.xml. doi: 10.1515/dmpt-2020-0111.
9. Viraragavan A, Willmer T, Patel O, Basson A, **Johnson R**, Pheiffer C. Adipocyte. 2021 Dec;10(1):108-118. Cafeteria diet induces global and Slc27a3-specific hypomethylation in male Wistar rats
10. Dlodla PV, Silvestri S, Orlando P, Mazibuko-Mbeje SE, **R Johnson**, Marcheggiani F, et al. Palmitate-induced toxicity is associated with impaired mitochondrial respiration and accelerated oxidative stress in cultured cardiomyocytes: The critical role of coenzyme Q9/10. *Toxicol Vitro*. 2020;68(10).
11. Dlodla PV, Orlando P, Silvestri S, **R Johnson** et al Coenzyme Q10 supplementation improves adipokine levels and alleviates inflammation and lipid peroxidation in conditions of metabolic syndrome: A meta-analysis of randomized controlled trials *International Journal of Molecular Sciences*, 2020, 21(9), 3247
12. Dlodla, P.V., **Johnson, R**, Mazibuko-Mbeje, S.E., Essop, M.F., Tiano, L. (2020) Fermented rooibos extract attenuates hyperglycemia-induced myocardial oxidative damage by improving mitochondrial energetics and intracellular antioxidant capacity. *South African Journal of Botany*. 131; 143-150
13. Dlodla, PV, Muller C., Louw J, Essop, F., Huisamen, B. and **Johnson, R.** (2020) The Combination Effect of Aspalathin and Phenylpyruvic Acid-2-O-β-D-glucoside from Rooibos against Hyperglycemia-Induced Cardiac Damage: An In Vitro Study. *Nutrients*. 12;1151; doi:10.3390/nu12041151
14. Dlodla P, Silvestri S, Orlando P, Gabuza K, Mazibuko-Mbeje S, Nyambuya TM, Mxinwa V, Mokgalaboni K, **Johnson R**, Muller CJF, Tiano L, Louw J, Nkambule BB. (2020) Exploring the Comparative Efficacy of Metformin and Resveratrol in the Management of Diabetes-associated Complications: *Nutrients*. Mar 11;12(3). pii: E739. doi: 10.3390/nu12030739.
15. Dlodla P, **Johnson R**, Mazibuko-Mbeje S, Essop M, Tiano L (2020). Fermented rooibos extract attenuates hyperglycemia-induced myocardial oxidative damage by improving mitochondrial energetics and intracellular antioxidant capacity. *South African Journal of Botany*. 131, 143-150. <https://doi.org/10.1016/j.sajb.2020.02.003>
16. Dlodla PV, Nyambuya TM, **Johnson R**, Silvestri S, Orlando P, Mazibuko-Mbeje SE, Gabuza KB, Mxinwa V, Mokgalaboni K, Tiano L, Muller CJF, Louw J and Nkambule, B. (2020) Metformin and heart failure-related outcomes in patients with or without diabetes: a systematic review of randomized controlled trials. *Heart Fail Rev*. Mar 10. doi: 10.1007/s10741-020-09942-y.
17. **Johnson R**, Sangweni NF, Mabhida SE, Dlodla PV, Mabasa L, Riedel S, Chapman C, Mosa RA, Kappo AP, Louw J, Muller CJF. (2019). An In Vitro Study on the Combination Effect of Metformin and N-Acetyl Cysteine against Hyperglycaemia-Induced Cardiac Damage. *Nutrients*. Nov 21;11(12). pii: E2850. doi: 10.3390/nu11122850.
18. Dlodla, P, Silvestri, Orlando P, Mazibuko-Mbeje S, **Johnson R**, Marcheggiani F, Cirilli I, Muller C, Louw J, Chellan N, Obonye N, Nkambule B, Tiano L. (2019) Palmitate-induced toxicity is associated with impaired mitochondrial respiration and accelerated oxidative stress in cultured cardiomyocytes: the critical role of Coenzyme Q9/10. *Biophysics and Biochemistry Reports*. November <https://doi.org/10.1101/830331>
19. Mabasa L, Samodien E, Sangweni NF, Pheiffer C, Louw J, **Johnson R** (2019). In Utero One-carbon Metabolism Interplay and Metabolic Syndrome in Cardiovascular Disease Risk Reduction. *Mol Nutr Food Res*. 2019 Aug 13:e1900377. doi: 10.1002/mnfr.201900377. PMID: 31408914
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induced cardiomyocyte toxicity by improving mitochondrial energetics and enhancing endogenous Coenzyme Q9/10 levels. *Toxicol Rep.* Nov 5;6:1240-1245. doi: 10.1016/j.toxrep.2019.11.004. eCollection 2019.

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25. Mabhida SE, Dlodla PV, **Johnson R**, Ndlovu M, Louw J, Opoku AR, Mosa RA. Protective effect of triterpenes against diabetes-induced β -cell damage: An overview of in vitro and in vivo studies. *Pharmacol Res.* 2018 Nov;137:179-192. doi: 10.1016/j.phrs.2018.10.004. Epub 2018 Oct 10. PMID: 30315968
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28. Shabalala SC, Dlodla PV, Muller CJF, Nxele X, Kappo AP, Louw J, **Johnson R**. (2019) Aspalathin ameliorates doxorubicin-induced oxidative stress in H9c2 cardiomyoblasts *Toxicol In Vitro.* Mar;55:134-139. doi: 10.1016/j.tiv.2018.12.012. Epub 2018 Dec 19.
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33. **Johnson R**, de Beer D, Dlodla PV, Ferreira D, Muller CJF, Joubert E. (2018) Aspalathin from Rooibos (*Aspalathus linearis*): A Bioactive C-glucosyl Dihydrochalcone with Potential to Target the Metabolic Syndrome. *Plant Medica.* Jul;84(9-10):568-583. DOI <https://doi.org/10.1055/s-0044-100622>
34. **Johnson R**, Shabalala S, Louw J, Kappo AP, Muller CJF (2017) Aspalathin Reverts Doxorubicin-Induced Cardiotoxicity through Increased Autophagy and Decreased Expression of p53/mTOR/p62 Signaling. *Molecules* 22 (10).
35. Dlodla PV, Joubert E, Muller CJF, Louw J, **Johnson R** (2017) Hyperglycemia-induced oxidative stress and heart disease-cardioprotective effects of rooibos flavonoids and phenyl pyruvic acid-2-O-beta-D-glucoside. *Nutrition and Metabolism* 14:45.
36. Smit SE, **Johnson R**, Van Vuuren MA, Huisamen B (2017) Myocardial Glucose Clearance by Aspalathin Treatment in Young, Mature, and Obese insulin-resistant Rats. *Planta Medica.* doi:10.1055/s-0043-117415
37. **Johnson R**, Dlodla PV, Muller CJF, Huisamen B, Essop MF, Louw J. (2017) The transcription profile unveils the cardioprotective effect of aspalathin against lipid toxicity. *Molecules.* 31; 22(2).
38. Shabalala S, Louw J, Muller C, **Johnson R**. (2017) Polyphenols, autophagy and doxorubicin-induced cardiotoxicity. *Life Science.* 180(2017):160-170.
39. Dlodla PV, Nkambule BB, Dias SC, **Johnson R**. (2017) Cardioprotective potential of N-acetyl cysteine against hyperglycemia-induced oxidative damage: a protocol for a systematic review. *Systematic Review.* 6(1):96.
40. Dlodla PV, Essop MF, Gabuza KB, Muller CJ, Louw J, **Johnson R**. (2017) Age-dependent development of left ventricular wall thickness in type 2 diabetic (db/db) mice is associated with elevated low-density lipoprotein and triglyceride serum levels. *Heart Vessels.* 32(8):1025-1031.
41. Dlodla PV, Muller CJ, Joubert E, Louw J, Essop MF, Gabuza KB, Ghoor S, Huisamen B, **Johnson R**. (2017) Aspalathin Protects the Heart against Hyperglycemia-Induced Oxidative Damage by Up-Regulating Nrf2 Expression. *Molecules.* 22(1).
42. Dlodla PV, Muller CJ, Joubert E, Louw J, Gabuza KB, Huisamen B, Essop MF, **Johnson R**. (2016) Phenylpyruvic Acid-2-O- β -D-Glucoside Attenuates High Glucose-Induced Apoptosis in H9c2

		<p>Cardiomyocytes. <i>Planta Medica</i>. 82(17):1468-1474.</p> <p>43. Johnson R, Dlodla PV, Joubert E, February F, Mazibuko S, Ghoor S, Muller C, Louw J. (2016). Aspalathin, a dihydrochalcone C-glucoside, protects H9c2 cardiomyocytes against high glucose-induced shifts in substrate preference and apoptosis. <i>Molecular Nutrition and Food Research</i>. 60(4):922-934</p> <p>44. Mazibuko S, Joubert E, Johnson R, Louw J, Opoku A and Muller CJF. (2015). Aspalathin improves glucose and lipid metabolism in 3T3-L1 adipocytes exposed to palmitate. <i>Molecular Nutrition Food Research</i>. 59(11):2199-2208</p> <p>45. Johnson R, Dlodla P, Muller CJ, Louw J (2014). Recommendations for short term culturing of rat cardiomyocytes. <i>Bioenergetics</i>.3:2</p> <p>46. Dlodla PV, Muller CJ, Louw J, Joubert E, Salie R, Opoku AR, Johnson R. (2014).The cardioprotective effect of an aqueous extract of fermented rooibos (<i>Aspalathus linearis</i>) on cultured cardiomyocytes derived from diabetic rats. <i>Phytomedicine</i>. 21(5):595-601</p> <p>47. Sanderson M, Mazibuko S, Joubert E, de Beer D, Johnson R, Pheiffer C, Louw J, Muller CJF (2014) Effects of fermented rooibos (<i>Aspalathus linearis</i>) on adipocyte differentiation <i>Phytomedicine</i>. 21(2):109-117</p> <p>48. Mazibuko SE, Muller CJ, Joubert E, de BD, Johnson R, Opoku AR, Louw, J. (2013) Amelioration of palmitate-induced insulin resistance in C2C12 muscle cells by rooibos (<i>Aspalathus linearis</i>). <i>Phytomedicine</i>. 20(10):813-819</p> <p>49. Johnson R, Warren RM, van der Spuy GD, Gey van Pittius NC, Theron D, Streicher EM, Bosman M, van Helden P, Victor TC. (2010) Drug-resistant TB epidemic in the Western Cape South Africa is driven by a virulent Beijing genotype strain. <i>International of Tuberculosis and Lung disease</i>. 14(1):1-3</p> <p>50. Johnson R, Jordaan A, Warren R, Bosman Marleine, Young D, Nagy J, Wain J, van Helden P, Victor T. (2008) Drug susceptibility testing using molecular techniques can enhance tuberculosis diagnosis. <i>J Infect Developing Countries</i> 2(1):40-45.</p> <p>51. Johnson R, Streicher M, Louw E, van Helden P, Warren R, Victor TC. (2006) Drug resistance in <i>Mycobacterium tuberculosis</i>. <i>Current Issues in Molecular Biology</i>. 8:97-112</p> <p>52. Johnson R, Warren R, Strauss OJ, Jordaan AM, Falmer AA, Beyers N, Schaaf HS, Murray M, Cloete K, van Helden PD, Victor TC (2006) An outbreak of Drug-Resistant tuberculosis caused by a Beijing strain in the Western Cape, South Africa 10(12):1412-1414.</p> <p>53. Johnson R, Jordaan AM, Pretorius L, Engelke E, Kewley C, Bosman M, van Helden PS, Warren R, Victor TC. (2006) Ethambutol resistance testing by mutation detection can improve the management of MDR-TB cases. <i>International Journal of Tuberculosis and Lung Disease</i>. 10(1):68-73.</p> <p>54. Van Rie, Victor TC, Richardson M, Johnson R, van der Spuy GD, Murray EJ, Beyers N, Gey van Pittius NC, and Helden PD, Warren RM. (2005) Reinfection and mixed infection cause changing <i>Mycobacterium tuberculosis</i> drug-resistance. <i>American Journal of Respiratory Critical Care Med</i>.172(5):636-642</p> <p>55. Warren RM, Victor TC, Streicher EM, Richardson M, van der Spuy GD, Johnson R, Chihota VN, Loch C, Supply P, van Helden PD. (2004). Clonal expansion of a globally disseminated lineage of <i>M. tuberculosis</i> with low IS6110 copy numbers. <i>Journal of Clinical Microbiology</i>. 42(12):5774-82.</p> <p>Book Chapters</p> <p>56. Joubert E, Muller CJF, De Beer D, Johnson R, Chellan N and Louw J. (2012) Phenolic Acids: Composition, Application and Health Benefits. Chapter 9: The potential role of phenolic acid in tea and herbal teas in modulating effects of obesity and diabetes pg. 173</p> <p>57. R Johnson, Streicher E, Louw GE, Warren R, van Helden PD and Victor T. <i>Mycobacterium: Molecular Microbiology</i>. Chapter 5: Drug resistance in <i>M. tuberculosis</i> pg. 169-197</p>
5	Scientific Skills and Knowledge Acquired	<p>Local Scientific Training:</p> <ul style="list-style-type: none"> ▪ Cardiovascular health, hypertension and diabetes. SNP genotyping and hypertension. Isolation and perfusions of rodent hearts. Short term (3 days) culturing of primary cardiomyocytes. ▪ BSL3 training: Tuberculosis typing, culture BSL3. ▪ Animal Models: Basic animal husbandry and handling. Rodent models include; Wistar rat and Leptin receptor-deficient db/db mouse model. ▪ Molecular and cell biology: Genomics (DNA methylation), transcriptomics (microarray, QRT-PCR, SiRNA), proteomics (2D electrophoresis, Western blot and enzyme-linked immunosorbent assay, cell biology (immortal and primary tissue culture), basic bioinformatics, level 3 biological training (tuberculosis culturing and maintenance), FACS Analysis. H9C2 culturing and Primary culturing of heart cells. <p>International Scientific training</p> <ul style="list-style-type: none"> • Proteomics LC/MS: Department of Molecular Biology, University of Southern Denmark, Odense, Denmark. October-December 2011 and 1-31 March 2012. • Microarray Training: Department of Cellular and Molecular Medicine, Bacterial Microarray group. St.

		<p>George's Hospital Medical School London. 1-30 March 2005 and 1-30 May 2006.</p> <ul style="list-style-type: none"> Proteomics Training: Department of Infectious Diseases, Centre for Molecular Microbiology and infection, Imperial College London. March-May 2005 and 1- 30 May 2006. Radioactive SSCP training: National Consultant, Seoul Republic of Korea.24 February-7 March 2003. Ref: CI-RAF/6/0259202.
6	Under-resourced institutions Collaboration and Training	<p>Post Graduate Student Training and Established Collaboration with Under-resourced Institutes:</p> <ol style="list-style-type: none"> University of Western Cape (UWC). Prof Mongi Benjeddou m benjeddou@uwc.ac.za University of Zululand (UZ). Prof Albertus Basson BassonA@unizulu.ac.za Walter Sisulu University (WSU). Prof Teke Apalata ruffinapalata@gmail.com
7	International and Local Collaboration	<p>International Collaboration:</p> <ol style="list-style-type: none"> Hospices Civils de Lyon, France.: Dr. Martin Cour. martin.cour@chu-lyon.fr Autónoma University, Madrid (AUM), Spain. Prof Oscar Lorenzo. Lorenzo@fjd.es Università Siena (US), Siena, Italy. Dr. Denise Beconcini denisebeconcini@gmail.com Polytechnic University of Marche (UM), Italy. Prof Luca Tiano, l.tiano@staff.univpm.it <p>Local Collaboration:</p> <ol style="list-style-type: none"> University of Cape Town (UCT). Prof Sandrine Lecour. Sandrine.Lecour@uct.ac.za BGI/SAMRC (BGI/SAMRC), Prof Craig Kinnear. Craig.Kinnear2@mrc.ac.za University of Stellenbosch. Prof Marlo Moller. marlom@sun.ac.za University of Johannesburg (UJ). Prof Paul Kappoakappo@uj.ac.za <p>Industrial Partner</p> <ul style="list-style-type: none"> BioPharm: Mr. Reenen Barry reenen@biopharmnz.com
8	Current Principle Investigator	<ol style="list-style-type: none"> Hypertension: Pharmacogenomics in Precision Medicine: Collaboration: Prof Lorenzo AUM, Prof Benjeddou (UWC), Prof Moller (US), Prof Kinnear (US), Prof Apalata (WSU). Funding R3 million Epigenetics: DNA Methylation Signatures and Novel drug target for Liver and Cardiac Dysfunction: Collaboration: Dr. Marais (US), Dr. Maarman (US), Dr. Basson (UZ) and Prof Kappo (UJ). Funding R1.4 million- 3 years Biomarkers: Identification of early Biomarkers for diabetic cardiomyopathy Collaboration: Prof Benjeddou (UWC), Prof Lecour (UCT) and Dr. Martin Cour (University of Lyon) Funding R 500 000 Disease Pathophysiology and Alternative treatment Collaboration: Prof Luca Tiano (UM), Mr. Barry (BioPharm), Dr. Beconcini (US), Prof Huisamen (US). Funding R 1.3 million
9	Journal Reviewer and Invited Speaker	<p>Journal Reviewer</p> <ol style="list-style-type: none"> PlosONE (IF2.76) Biomedicine & Pharmacotherapy (IF 3.4) Phytomedicine (IF 3.6) Journal of Ethnopharmacology (IF3.1) Journal of Molecular Nutrition and Food Research (4.9) Journal of Cardiovascular Pharmacology and Therapeutics (2.094) Cellular Physiology and Biochemistry (5.5) Journal of Agricultural and Food Chemistry (IF 3.15) Journal of OncoTargets and Therapy (IF 2.31) South African Journal of Botany (IF 1.34) <p>Invited Speaker</p> <ul style="list-style-type: none"> International conference presentation: The IAS COVID-19 Conference. Tuesday, 2 February 2021 Discovery Presentation oral video presentation. Covid-19 state of play 20 July 2020. SA Heart, Sun City 4-7 October 2018- Oral presentation planetary ICE/SEMDSA, ICC, South Africa, December 2018-Oral presentation 45th Annual conference of the Anatomical Society of Southern Africa (ASSA) Cell & Developmental Biology Symposium. Faculty of Health Sciences, University of Cape Town. 22 April 2017 Plenary speaker: An overview of the mechanisms of drug resistance in <i>M. tuberculosis</i> and the role of molecular techniques in the control of drug-resistant TB.1st SA TB Conference ICC Durban 1-4 July 2008
10	Student Supervision and Graduation	<p>A. Student supervision:</p> <ol style="list-style-type: none"> Ms. Xolisa Nxele (student number 2756259). Identification of sub-clinical biomarkers that predict the risk of developing diabetic cardiomyopathy. Ph.D., University of Western Cape, 2015-current (Supervisor) Ms. Tracey Jooste (Student number 15756262). Ph.D., Identification of novel DNA methylation signatures in the development of cardiac dysfunction. Stellenbosch University, 2017-current (Supervisor) Ms. Nonhlakanipho Sangweni (student number 201148985). The Cardioprotective Potential of a Lanostane triterpene from <i>Protorhus longifolia</i> on H9c2 Cardiomyocytes. PhD, Stellenbosch University, 2016-current (Supervisor) Sihle Mabhida. Pharmacogenomics and uncontrol Hypertension in South Africa. PhD University of Western Cape, 2016-current (Supervisor)

B. Current student co-Supervisor:

5. Ms. Zainonesa Abrahams-October (Student number 9626736). Pharmacogenomics of anti-diabetic drugs in the Xhosa population. **Ph.D.**, University of Western Cape, 2017-current (**co-Supervisor**)
6. Ms. Charity Masilela (Student number 3779339) Pharmacogenomics of metformin response in indigenous Zulu patients. **Ph.D.**, University of Western Cape, 2017-current (**co-Supervisor**)
7. Mr. Yoonus Abrahams. (Student number 15166325). A study investigating hepatic epigenetic modulation in diet-induced obese Wistar rats. **Ph.D.** Stellenbosch University, 2017-current (**co-Supervisor**)
8. Mr. Musoliwa Rendawi (Student number 3777314). Pharmacogenetics of amlodipine response in the hypertensive Xhosa population. **MSc.** The University of Western Cape, 2017-current (**co-Supervisor**)

C. Students Graduated:

1. **Ms. Samukelisiwe Shabalala** (Student number 206004455). DNA methylation, liver toxicity and the effect on the heart. Ph.D., University of Zululand, 2017-current (Supervisor), **Graduation May 2021**
2. **Ms. Amsa Viraragavan.** (Student number 201160287). Investigating DNA methylation in adipose tissue of obese Wistar rats. Ph.D., University of Zululand, 2017-current (co-Supervisor). **Graduation May 2021**
3. **Thendo Innocent Mabuda,** University of Stellenbosch. Effect of rooibos treatment on inflammatory and oxidative stress genes in in vitro and in vivo models of NAFLD. Graduated 2021 **MSc**
4. **Anri Kotze,** University of Stellenbosch. The effect of Sclerocarya birrea (marula) leaf extract on hepatic lipid accumulation in mice, Graduated 2020 BSc Honours
5. **Ms. Malebogo Moremane.** Pinocembrin attenuates Doxorubicin-induced cardiotoxicity Stellenbosch University, 2019 **Honours**
6. **Ms. Anel Boshoff.** (student number 17708559) Understanding the liver to protect the heart. Stellenbosch University, 2018 **MSc**
7. **Dr. Sybrand Smit. (Student number 15368335)** The cardioprotective abilities of green rooibos tea and an investigation into the correlating mechanisms involved. Stellenbosch University, **2018 PhD**
8. **Ms. Nonhlakanipho Sangweni. (Student number 201148985)** The cardioprotective effect of a Lanosteryl Triterpene from Protorhus Longifolio on H9c2 cardiomyoblast. University of Zululand, **2018 MSc**
9. **Dr. Samantha Inga Cairncross.** Evaluation of the cardioprotective effects of *Olea* containing liposomes. University of the Western Cape, **2018, PhD**
10. **Dr. Phiyayinkosi Dlodla.** Compounds specific to *Aspalathus linearis* protect the diabetic heart against oxidative stress: a mechanistic study. Stellenbosch University, **2017 PhD**
11. **Ms. Samukelisiwe Shabalala.** The effect of aspalathin on doxorubicin-induced cardiotoxicity, University of Zululand, **2017 MSc**
12. **Mr. Phiyayinkosi Dlodla.** Investigating the effect of *Aspalathus linearis* as a cardio-protective therapy in isolated rat cardiomyocytes. University of Zululand, **2014 MSc**
13. **Mr. Sybrand Smit.** Investigation into the effects of aspalathin on myocardial glucose transport using cardiomyocytes from control and obese-induced insulin-resistant rats, and terminally differentiated H9c2 cells. Stellenbosch University, **2016 MSc**
14. **Ms. Margaretha Bester.** Defining mechanisms that determine the levels of drug resistance in mycobacterium tuberculosis. Stellenbosch University, **2009 MS**
15. **Ms. Prudy Sepe. BSc Honours,** Stellenbosch University, **2008 Honours**

Thesis submitted for examination

5. **Ms. Melisse Scheepers** (student number 16648145). Aberrant DNA methylation of Loxl2 predicts the development of heart failure. **Ph.D.**, Stellenbosch University, 2017-current (Supervisor), PhD Submitted
6. **Ms. Asive Myataza.** ((Student number 20614071). DNA methylation profiling in the muscle of obese, insulin-resistant Wistar rats. **Ph.D.** Stellenbosch University, 2017-current (co-Supervisor)

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1. Ms. Charlize White, Stellenbosch University, December 2019, **Ph.D.**, Department of Medical Physiology
2. Ms. Ayanda Shabangu, University, November 2019, **MSc**, Department of Medical Physiology
3. Ms. Abhilasha Mishra Stellenbosch University, November 2019, **Ph.D.**, Department of Medical Biochemistry
4. Ms. Robyn Green, Stellenbosch University, November 2017, **Honours**, Department of Medical Physiology

		<ol style="list-style-type: none"> 5. Mr. Brendon Pearce, University of Western Cape, November 2016, Ph.D., Department of Biochemistry 6. Ms. Fatma Eshumani, University of Western Cape, November 2016, Ph.D., Department of Biochemistry 7. Ms. Itumeleng Chabaesele, Stellenbosch University, March 2015, MSc, Department of Physiology 8. Ms. Tarryn Fisher, Stellenbosch University, April 2014, MSc, Department of Physiology 9. Mr. Dumisile Lumkwana, Stellenbosch University, March 2014, MSc, Department of Physiology 10. Ms. Firzana October, University of Western Cape, June 2013, MSc, Department of Biotechnology 11. Mr. Brendon Pearce, University of Western Cape, June 2012, MSc, Department of Biochemistry 12. Ms. Ogunyinka Idiat, University of Zululand (March 2012), MSc, Department of Biochemistry and Molecular Biology 13. Ms. Stellenbosch University, January 2012, MSc, Department of Biochemistry and Molecular Biology 14. Ms. Melanie Grobbelaar, Stellenbosch University, December 2011, MSc, Department of Biochemistry and Molecular Biology 15. Ms. Tasneem Geduld, University of Western Cape, June 2010, Ph.D., Department of Biotechnology 16. Ms. Zainunesa Abrahams, University of Western Cape, November 2009, MSc, Department: Biotechnology 																																												
7	Income Generation / Finance	<p>Research Grants as PI:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 15%;">Period</th> <th style="text-align: left; width: 45%;">Grant</th> <th style="text-align: left; width: 20%;">Period</th> <th style="text-align: left; width: 20%;">Amount</th> </tr> </thead> <tbody> <tr> <td>• 2020-2023</td> <td>DSI?SHIP01/2019.....</td> <td>3 years.....</td> <td>R3, 000, 000</td> </tr> <tr> <td>• 2020-2023</td> <td>CPRR/NRF.....</td> <td>3 Years.....</td> <td>R1,620, 000</td> </tr> <tr> <td>• 2018-2019</td> <td>Novartis</td> <td>3 years</td> <td>R250 000</td> </tr> <tr> <td>• 2018-2019</td> <td>Rooibos Council</td> <td>3 years</td> <td>R983 520</td> </tr> <tr> <td>• 2017-2019</td> <td>DST/NRF/ PDP (UID 104912)</td> <td>3 years</td> <td>R1,420 000</td> </tr> <tr> <td>• 2017-2019</td> <td>DST/NRF/PDP (UID 104897)</td> <td>3 years</td> <td>R710 000</td> </tr> <tr> <td>• 2017-2019</td> <td>THUTHUKA (UID 107261)</td> <td>3 years</td> <td>R360 000</td> </tr> <tr> <td>• 2017</td> <td>SAMRC-RFA-IRF</td> <td>1 year</td> <td>R249 000</td> </tr> <tr> <td>• 2014-2016</td> <td>THUTHUKA (UID 87836)</td> <td>3 years</td> <td>R 480 000</td> </tr> <tr> <td>• 2011-2014</td> <td>SAMRC Development Grant</td> <td>3 years</td> <td>R200 000</td> </tr> </tbody> </table>	Period	Grant	Period	Amount	• 2020-2023	DSI?SHIP01/2019.....	3 years.....	R3, 000, 000	• 2020-2023	CPRR/NRF.....	3 Years.....	R1,620, 000	• 2018-2019	Novartis	3 years	R250 000	• 2018-2019	Rooibos Council	3 years	R983 520	• 2017-2019	DST/NRF/ PDP (UID 104912)	3 years	R1,420 000	• 2017-2019	DST/NRF/PDP (UID 104897)	3 years	R710 000	• 2017-2019	THUTHUKA (UID 107261)	3 years	R360 000	• 2017	SAMRC-RFA-IRF	1 year	R249 000	• 2014-2016	THUTHUKA (UID 87836)	3 years	R 480 000	• 2011-2014	SAMRC Development Grant	3 years	R200 000
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