

CURRICULUM VITAE

SYLVIA RIEDEL-VAN HEERDEN

PERSONAL AND CONTACT DETAILS

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EXPERIENCE

01/2014 – present: Senior Scientist at Biomedical Research and Innovation Platform, SAMRC

Research focus: health promoting properties of polyphenols with focus on anti-inflammatory, and anti-diabetic properties, toxicology and cancer chemoprevention using South African herbal plant extracts

Responsibilities:

- Develop new research focus on chronic intestinal inflammation and immune dysfunction as a target for prevention of metabolic diseases such as type 2 diabetes
- grant applications
- capacity development: training of staff and students, student supervision:
 - Graduated 5 MSc students, 2 BSc Hons students
 - Currently supervising 1 MSc (1st year) and 1 PhD student (3rd year)
- extraordinary lecturer at Division of Division of Medical Physiology, Department of Biomedical Sciences, Faculty of Medicine and Health Sciences, University of Stellenbosch from 2016-2020

06/2009 – 12/2013: Senior Scientist at PROMEC Unit, SAMRC

Research focus: Toxicology and cancer chemoprevention in food sciences.

PhD studies included investigation of the preventive properties of omega3 fatty acids against the induction of precancerous rat liver lesions by the mycotoxin fumonisin B₁. Methodology on cellular and tissue antioxidant status was established and refined. Since 2009, coordinator for project on cancer modulating properties of South African Herbal teas. New methods and research directions included assessment of apoptosis and development of *in vitro* models for screening of anti-inflammatory compounds.

DOCTORAL STUDIES – FOOD CHEMISTRY

Institute of Food Chemistry, Westfaelische Wilhelms-University, Muenster, Germany, research was conducted at PROMEC Unit, MRC, South Africa

“Modulation of lipid metabolism as a possible tool to prevent carcinogenic effects of fumonisin B₁” – graduation April 2012

Publications:

Viraragavan A, Hlengwa N, Beer D de, Riedel S, Miller N, Bowles S, Walczak B, Muller CJ, Joubert E, 2020. Model development for predicting *in vitro* bio-capacity of green rooibos extract based on composition for application as screening tool in quality control. *Food Funct*; DOI: 10.1039/C9FO02480H.

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*; DOI: 10.3390/nu11122850.

Magcwebeba TU, Riedel S, Swanevelder S, Swart P, De Beer D, Joubert E, Gelderblom WCA, 2016. The potential role of polyphenols in the modulation of skin cell viability by *Aspalathus linearis* and *Cyclopia spp.* herbal tea extracts *in vitro*. *J. Pharm. Pharmacol.* 68, 1440–1453.

Riedel S, Abel S, Burger H-M, van der Westhuizen L, Swanevelder S, Gelderblom WCA, 2016. Differential modulation of the lipid metabolism as a model for cellular resistance to fumonisin B₁-induced cytotoxic effects *in vitro*. *Prostaglandins Leukot. Essent. Fatty Acids* 109, 39–51. doi:10.1016/j.plefa.2016.04.006

Riedel S, Abel S, Swanevelder S, Gelderblom WCA, 2015. Induction of an altered lipid phenotype by two cancer promoting treatments in rat liver. *Food Chem. Toxicol.* 78C, 96–104. doi:10.1016/j.fct.2015.01.023

Abel S, Riedel S, Gelderblom WCA, 2014. Dietary PUFA and cancer. *Proc Nutr Soc* 1–7. doi:10.1017/S0029665114000585

Magcwebeba T, Riedel S, Swanevelder S, Bouic P, Swart P, Gelderblom WCA, 2012. Interleukin-1 α Induction in Human Keratinocytes (HaCaT): An *In Vitro* Model for Chemoprevention in Skin. *Journal of Skin Cancer* 2012, doi: 10.1155/2012/393681.

Book chapters:

Gelderblom W, Abel S, Riedel S, 2012. The application of rat carcinogenesis studies in mycotoxicological research: Chemoprevention and role in risk assessment, in: Pandalai, S., Pouliquen, D. (Eds.), *The Rat in Cancer Research: A Crucial Tool for All Aspects of Translational Studies*. Research Signpost, Kerala, India, pp. 157–186.

Gelderblom WCA, Riedel S, Burger H-M, Abel S, Marasas W, 2008. Carcinogenesis by the Fumonisin: Mechanisms, Risk Analyses, and Implications, in: Siantar, D.P., Trucksess, M.W., Scott, P.M., Herman, E.M. (Eds.), *Food Contaminants: Mycotoxins and Food Allergies*, ACS Symposium Series. American Chemical Society, Washington, DC, pp. 80–95.