

# CURRICULUM VITAE

## SYLVIA RIEDEL

### *PERSONAL AND CONTACT DETAILS*

---

*address* South African Medical Research Council, Biomedical Research and Innovation Platform (BRIP), PO Box 19070, 7505 Tygerberg

*phone* 021 938 0844

*email* [sylvia.riedel@mrc.ac.za](mailto:sylvia.riedel@mrc.ac.za)

### *EXPERIENCE*

---

*02/2022 – present:* Specialist Scientist at BRIP, SAMRC

*01/2014 – 01/2022:* Senior Scientist at BRIP, 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 research focus on chronic intestinal inflammation and immune dysfunction as a target for prevention of metabolic diseases such as type 2 diabetes
- Grant applications (NRF, South African Rooibos Council, Harry Crossley Foundation)
- Capacity development: training of staff and students, student supervision:
  - graduated 1 PhD student, 5 MSc students, 3 BSc Hons students
  - currently supervising 2 MSc students
- Extraordinary lecturer at Division of Division of Medical Physiology, Department of Biomedical Sciences, Faculty of Medicine and Health Sciences, University of Stellenbosch (05/2016 – 04/2024)
- Examiner of theses/dissertations (2 MSc thesis, 7 BSc Hons reports)
- Peer review of manuscripts (World Mycotoxin Journal, Food Additives and Contaminants, Phytomedicine, Journal of Ethnopharmacology, South African Journal of Botany, MedChemComm, Toxicology in vitro, Frontiers Cell and Developmental Biology, F1000 Research)
- Chairperson of the BRIP Research Symposium Organising Committee (since 2020)

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

*Research focus:* Toxicology and cancer chemoprevention in food sciences.

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; Title: “Modulation of lipid metabolism as a possible tool to prevent carcinogenic effects of fumonisin B<sub>1</sub>” (Graduation April 2012)

## Publications:

Riedel S, Pheiffer C, Johnson R, Louw J, Muller CJF, 2022. Intestinal Barrier Function and Immune Homeostasis Are Missing Links in Obesity and Type 2 Diabetes Development. *Front. Endocrinol.* 12, 833544. doi: 10.3389/fendo.2021.833544

Venter P, Malemela K, Mbazima V, Mampuru LJ, Muller CJF, Riedel S, 2021. An RP-LC-UV-TWIMS-HRMS and chemometric approach to differentiate between *Momordica balsamina* chemotypes from three different geographical locations in Limpopo province of South Africa. *Molecules* 26, 1896. doi:10.3390/molecules26071896

Sangweni NF, Moremane M, Riedel S, van Vuuren D, Huisamen B, Mabasa L, Barry R & Johnson R, 2020. The prophylactic effect of pinocembrin against doxorubicin-induced cardiotoxicity in an *in vitro* H9c2 cell model. *Front Pharmacol* 11, 1172.

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.

Magwebeba 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 B<sub>1</sub>-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

Magwebeba T, Riedel S, Swanevelder S, Bouic P, Swart P, Gelderblom WCA, 2012. Interleukin-1 $\alpha$  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.