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Poland

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I completed my PhD at the Victoria University of Wellington in New Zealand. My doctoral research involved studying the physiological aspects of the cnidarian-algal symbiosis. During the course of my PhD study I developed an interest in cellular and system physiology which led me to pursue postdoctoral work in the field of health and exercise physiology. I am currently undertaking postdoctoral research at the School of Health Sciences (Biokinetics, Exercise and Leisure Sciences) at UKZN. My main interest areas center around the immune and inflammatory responses to exercise as well as the effect of lifestyle factors, such as diet and inactivity, on inflammation and immune function. The focus of my current research is to study the link between exercise and the prevention of chronic diseases of lifestyle.

Topic

Investigating the effect of exercise on low-grade inflammation that is associated with development of insulin resistance and cardiovascular disease.

CURRENT RESEARCH Methodology

- Obese, physically inactive, young adults are recruited to complete a series of High Intensity Training (HIT) sessions.
- Blood samples are collected from each study participant before and after the commencement of the training sessions.
- Pro- and anti-inflammatory cytokines and other biomarkers of systemic inflammation are measured to investigate the effect of HIT training on inflammation.

Application

Provide a basis for the treatment and prevention of obesity and concomitant metabolic and cardiovascular disease by way of increased physical activity and the controlling of blood glucose and lipolytic rate as well as inappropriate adipokine release.

UKZN main Publications

- 1. SCHLEYER, M.H., MACDONALD, A.H.H., STARZAK, D.E., MANN, B.Q., COSTA, A., & ABREU, D. 2008. Studies on reef connectivity within the context of the transmap project. In: Coastal Oceans Research and Development in the Indian Ocean: Status Report 2008. CORDIO, Mombasa: 113-114.
- 2. SCHLEYER, M.H., CELLIERS, L., GLASSOM, D., MACDONALD, A.H.H., KRUGER, A., STARZAK, D.E. & FLOROS, C. 2008. South African Reefs: Current status and research. In: Coastal Oceans Research and Development in the Indian Ocean: Status Report 2008. CORDIO, Mombasa: 107-111.

Past Researches

- 1. Genetic diversity of *Symbiodinium* sp. In the Western Indian Ocean. Oceanographic Research Institute, Durban, South Africa.
- 2. Physiology of cnidarian-algal symbioses. Victoria University of Wellington, Wellington, New Zealand. Starzak, D. E., Quinnell, R. G., Nitschke, M. R., Davy, S. K. (submitted). The influence of symbiont diversity on photosynthetic carbon flux in a model cnidarian-dinoflagellate symbiosis.

Future Interests

Research:

Investigation of the role of gut integrity and gut microbiota in immune function.

Effect of exercise on gut microbiota diversity and its link to immunity.

Epigenetics.

Extra Interests

Trail running, outdoor pursuits, Pilates.