

# STUDY OPPORTUNITY

in the

## Nanobiotechnology Research Group

The **Nanobiotechnology Research Group** in the Department of Biotechnology at the University of the Western Cape herewith invites potential students to enrol for an **NRF-funded** PhD or MSc degree to develop drug delivery systems for obesity. If interested, you may start either in the second semester of 2019 or the beginning of January 2020.

### Research background:

Obesity is a complex metabolic disease that poses serious public health problems worldwide. It is a risk factor for various life threatening chronic diseases such as type 2 diabetes, fatty liver disease, hypertension, dyslipidemia, atherosclerosis and osteoarthritis. Treatment of obesity using anti-obesity drugs, is limited by their non-specificity, and most of them have been withdrawn from the market due to severe adverse side effects. Therefore, there is an urgent need for the development of safe and effective drugs and treatment approaches in order to curb the obesity epidemic.

Our lab and others have shown that inhibiting angiogenesis by targeting a protein expressed on dysfunctional cells lining the blood vessels represents a promising strategy for obesity treatment. However, this strategy is limited by the use of only one targeting peptide. Thus, we want to discover other novel, specific and selective targeting agents to use for obesity treatment.

### Research project:

An *in vivo* model of obesity will be used to isolate potential targeting molecules. These agents will further be validated in cell culture for use as active targeting agents for obesity treatment. The selected agents will then be used to develop drug delivery systems for obesity treatment.

### Studentships:

Studentships (MSc and PhD) with bursary funding for South African citizens are available. Experience in either cell biology, histology, biochemistry, microbiology, pharmacy or molecular biology (especially PCR) is required.

Interested students must contact **Prof Abram Madiehe** ([amadiehe@uwc.ac.za](mailto:amadiehe@uwc.ac.za)) ASAP, by providing a CV, application letter, ID copy and transcripts.



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