

MSc and PhD Opportunities available for study in Pain



Phenotyping and risk factors for painful diabetic neuropathy (PhD)

About half of individuals with diabetes mellitus develop damage to peripheral nerves (peripheral neuropathy), and in about half of the individuals with peripheral neuropathy, pain is a salient feature that significantly affects quality of life. Moreover, this pain is resistant to treatment with standard analgesics. In this project, you will phenotype individuals with diabetes who have a peripheral neuropathy, half with pain and half without pain, with the objective been to identify features of the neuropathy that differ between individuals with and without pain. The phenotyping will include, amongst other measurements, assessing sensory thresholds and tolerances to noxious and non-noxious stimuli, the endogenous capacity of the nervous system to regulate pain, measuring the density of nerve fibres and inflammatory markers in the epidermis, and measuring nerve fibre density in the cornea.

Sensory profiles in people with long-COVID (MSc)

Aches and pains are common features of long-COVID. You will be investigating the pain phenotype (sensory thresholds and tolerances to noxious and non-noxious stimuli, and the endogenous capacity of the nervous system to regulate pain) in individuals who have had COVID and are asymptomatic (no long-COVID), individuals who have had COVID and are symptomatic (have long-COVID), and healthy controls (have been immunised against COVID and have never had COVID).

Variability of pain ratings in healthy individuals in unsensitised skin and sensitised skin (MSc)

When patients and healthy research participants have their pain threshold measured, the standard practice is to take three measurements and average them. However, it is unclear what the short-term stability is in pain thresholds, and therefore whether three measurements is a good reflection of the sensory threshold. In this study, you will measure the short-term stability in pain thresholds in healthy individuals using repeated exposure to carefully controlled heat and cold stimuli. These stimuli will be applied on normal skin and on skin that has been sensitised by applying capsaicin (chilli pepper) cream. The hypothesis is that attention to the area of skin is heightened after it has been sensitised, so the precision of the threshold recording will improve.

To apply or make enquiries:

Email Prof Peter Kamerman Peter.Kamerman@wits.ac.za
Include in your application a copy of a CV, an academic transcript and a referral letter from your honours supervisor.

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Website: painblogr.org

Apps: [statr](#) (statistics app)

[plotr](#) (plotting app)





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