



Open MNF Master's thesis project:

Hormones in comparative perspective

I am looking for a Master's student for the following project:

Research questions:

- Are there systematic differences in hormone levels between human populations, or between humans and other primates?
- What are the correlates of hormone levels across species and human populations?

Context: Hormones are important mediators of behaviour, psychology, and physiology throughout the life course. For example, androgens play a crucial role in early sex differentiation, including organizational effects in the brain, and in the activation of reproductive function, mating, and competitive behaviour. Conversely, shifts to stable pair bonds and parental investment are accompanied by drops in androgens. Across individuals and species, variation in mating strategies are therefore reflected in variation in hormone physiology. Furthermore, androgen levels are costly to maintain, and rapidly decline during energetic stress; for this reason, androgen levels in Western societies are at unusually high levels compared with more energetically-limited populations. Similar considerations apply to the stress hormone cortisol, which integrates information about stressors in the environment across the life course.

Data and tasks: Recently a massive database containing androgen and cortisol levels in hundreds of vertebrate species has been published. This provides the starting point for this project. The database lacks information on humans and most non-human primates, which must be added through careful literature searches and direct requests to relevant researchers. Data on potential correlates of hormone levels such as mating system or social structure also have to be gathered from the published literature. Phylogenetic comparative analyses can then be used to test for systematic differences in hormone levels among species and populations, as well as for the socio-ecological correlates of hormone levels.

Prerequisites: Basic knowledge of statistical methods and coding in R. Strong interest in hormones, human biology, and in evolutionary perspectives on human behaviour.

Start: As soon as possible or by arrangement.

If you are interested, please send a short CV by email to the contact addresses given above.