

# Scientific Reproducibility Series

Leverhulme-Bridges and Behavioural Science GRP



**The Leverhulme Trust**



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2-3PM, 11 October 2016 (Tue), B1.01 (Zeeman Building).

### **“Improving Reproducibility in Human Neuroimaging”**

I will discuss the specific challenges of reproducibility in my discipline, the statistical analysis of human neuroimaging, with particular emphasis on functional magnetic resonance imaging (fMRI). Starting with a review of the claims and evidence for a 'reproducibility crisis' in science in general, I will delve into the specific problems faced by neuroimaging, in particular the multiple testing problem when searching the brain for effects. I will discuss a practical mechanism to advance transparency and reproducibility, the report from the Organisation for Human Brain Mapping (OHBM) Committee of Best Practice in Data Analysis and Sharing (COBIDAS). The COBIDAS MRI report elaborates open science principles of transparency and data sharing for neuroimaging, highlighting particular problems to avoid and provides lists on items to report when writing up. I will close with some exemplary work that demonstrate these principles and discuss the implications for the discipline going forward.