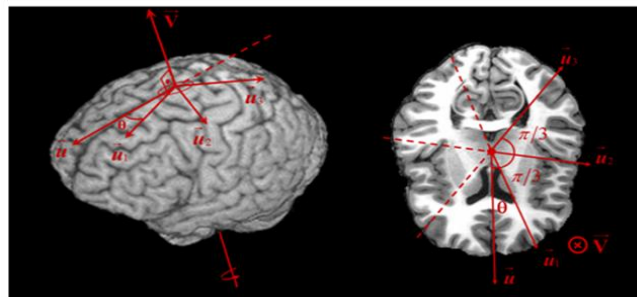


Methodology to quantify structural changes in Biomedicine and Neurosciences

The identification and quantification of morphological changes that occur in the brain due to neurological disease, development and ageing, is of special interest in medical research. Design-based stereological methods have been widely applied in combination with magnetic resonance imaging to estimate the volume and surface area of brain structures, as well as number of neurons, cells, etc.

In this talk, we will explore several unbiased stereological methods that are currently applied in Neurosciences (e.g. to estimate the surface area of the cerebral cortex or the volume of the hippocampus). The advantages and limitations of these methods will be discussed, and how to predict their precision will be illustrated by using biological examples. Finally, we will look at how to identify volume changes of the hippocampus in a patient with epilepsy after two years of disease.



Title and affiliation:

Dr. Marta García-Fiñana (Faculty of Medicine, University of Liverpool)