

Numerical Cognition in Adults

Numerical cognition is the set of cognitive processes by which human beings, children or adults, are able to handle numbers and perform calculations. It covers the processes by which the numerosity of collections of objects or series of events can be determined, the quantities and various numerical notations can be processed, compared and transformed, and the various arithmetic operations performed. Our group studies *numerical cognition in adults* with the aim to define the functional components of calculation and number processing and find their neuroanatomical correlates. We use complementary methodologies integrating the functional and neuroanatomical levels of analysis: the study of cerebral activations with functional brain imaging techniques (e.g., fMRI), lesional studies examining the performance of brain-damaged patients or the effect of transient virtual lesions induced by neurostimulation techniques (e.g., TMS, tDCS) in healthy adults, and mental chronometric studies.

Students (Master level) are welcome for a research-training period. The objective of the training is to introduce the trainee to various research methods in cognitive neuroscience applied to the study of numerical cognition, including functional brain imaging techniques. The trainee will join ongoing research projects as an experimenter; she/he will have the opportunity to participate actively or passively to the various steps of a research project, and, by the end of the training, she/he will master modern research tools in cognitive neuroscience. The minimum duration of the training period is 600 hours.

Details on the group and on ongoing projects can be found at <http://www.uclouvain.be/numerical-cognition.html>. Applications should be sent to:

- Michael Andres <michael.andres@uclouvain.be>, senior investigator, research associate at the Fonds National pour la Recherche Scientifique (Belgium) and professor at the Université catholique de Louvain;

or

- Mauro Pesenti <mauro.pesenti@uclouvain.be>, senior investigator, research associate at the Fonds National pour la Recherche Scientifique (Belgium) and professor at the Université catholique de Louvain