Dr. Véronique Deroche-Gamonet

Cocaine addiction: a translational study to identify and characterize dysfunctional neural networks (COCADDICT)

Project Coordinator: Dr. Véronique Deroche-Gamonet, INSERM, Bordeaux, France.
Project Partners: Prof. Rainer Spanagel, Central Institute for Mental Health, MANNHEIM, Germany,
Prof. Marco Leyton, McGill University, Montreal, Canada, Dr. Cyril Herry, INSERM, Bordeaux, France.

Only approximately 15-20% of the people who try cocaine become severely addicted, continuing to use the drug despite accumulating adverse consequences. Unfortunately, we know little about why some people lose control of cocaine use, and medications to treat cocaine addiction have yet to be discovered. To address these issues, COCADDICT will examine sequential stages of the addiction process in individuals with varying addiction risk. The studies will benefit from coordinated research streams in both cocaine users and animals in a high face validity model. By exploiting new brain imaging methods in both humans and animals, we will dissociate alterations that are related to addiction from those that are related to prolonged drug use without loss of control. By using novel brain activation techniques, we will identify the relevant neurochemistry within these circuits, and determine whether addiction-related neural changes can be reversed in experimental animals. Together, the studies will help to identify neurobiological trajectories of addictive behaviour as well as potential treatment targets.