

Freie Universität Berlin



Center for  
Cognitive  
Neuroscience  
Berlin

## Berlin Decision Neuroscience Lecture 2018

**Prof. Lesley Fellows**

### **Damaged Decisions: The Neurology of Value**

(Dept. of Neurology & Neurosurgery, McGill University)



Fabeckstrasse 23-25, lecture hall: -1.2009 (entry Holzlaube)

Tuesday 26th of June 2018, 6 pm until 8 pm



## **Damaged Decisions: The Neurology of Value**

**Prof. Lesley Fellows**

(Dept. of Neurology & Neurosurgery, McGill University)

Judgment and decision-making are central to human behaviour: Whether in the grocery store or the polling station, the choices we make can have major implications for our own health and well-being, and for society as a whole. Current public health challenges, including obesity and addiction, may stem from a mismatch between individual decision-making abilities and the often challenging environments those individuals face.

One way to better understand decision-making is to study how it is carried out in the brain. My research aims to specify the component processes of value-based decision-making, and test the necessary contributions of frontal lobe sub-regions to these processes in humans with focal brain injury. I will review work showing that orbitofrontal cortex is critical for even very simple value-based judgments, and provide evidence as to the mechanisms that may underlie this observation. These studies remind us that we often stray from fully rational choices, and begin to show the neurobiological mechanisms that underlie both the foibles and strengths of human decision-making. They also provide a fresh perspective on prefrontal contributions to executive functions, addressing how goals are selected for “goal-directed behavior” in the open-ended situations that are common in the real world, if not in the lab. This framework is relevant to the many neurological and psychiatric conditions marked by executive dysfunction and impaired motivation.