



Philosophische Fakultät



## **CCLS: Martin Schulte-Rüther (University Medical Center Göttingen)**

*Mechanisms of face-to-face interaction and communication – a clinical neuroscience perspective*

Monday, 9 January 2023, 2:00 p.m., Zoom

Nonverbal social signals during face-to-face communication (such as facial expressions and eye gaze) are particularly important aspects of social interaction. These cues allow us to infer the emotions and intentions of another person and to tune our own behavior to the others' mental and emotional states and are essential for successful verbal and non-verbal communication. Furthermore, such signals also serve as feedback cues which guide decision making and the adaptation of subsequent behavior in social settings. For example, observing a warm smile or "thumbs up" from somebody else may increase the probability to perform a specific behavior more often, where as a frown or a disdainful gaze may cause avoidance. Substantial progress has been made in recent years to uncover brain mechanisms related to social interaction and communication, and their alteration in disorders of the brain. However, atypical social functioning is often rooted in divergent development. In some cases, processing of social cues appears to be disturbed from early on (for example in developmental disorders such as autism spectrum disorder). In other cases, later stages of social development are particular important (for example in psychiatric disorders which peak in later childhood and adolescence, such as social anxiety and depression).

In this talk, I will demonstrate how social interaction and learning from social cues can be investigated using neuroscientific methods and quantitative behavioral assessment techniques. This includes methods such as fMRI, fNIRS, EMG, eye-tracking and video-based analysis.

I will take a developmental and clinical perspective to show how the neuroscientific investigation of facial expression, eye-gaze behavior and social learning may foster advances in the understanding of social interaction and communication and their role for developmental and psychiatric disorders.