Our expectations of threats are often shaped within social situations. Observed aversive experiences in others can thereby exert powerful effects on our emotional and physiological responses and contribute to the individual development of fears and phobias. The neural forebrain regions that underlie such observation of aversive experiences have been found to overlap with regions that are also involved in first-hand aversive experiences. Yet, it is less clear if specific neural pathways underlie observational learning that differ from first-hand aversive experiences. Furthermore, insights on the pharmacological regulatory mechanisms of observational threat learning are currently missing.

In my talk I aim to present a new perspective on observational learning that is based on systems neuroscience and neuropharmacology. I will argue that observational learning includes a specific functional connectivity between forebrain regions that can be differentiated from first-hand aversive experiences. I will further extend the current model of forebrain mechanisms in observational learning by initial findings on the involvement of the midbrain and the spinal cord. Based on these neural pathways, I will introduce our findings on the regulation of observational learning processes by pharmacological means within the opioid, GABAergic and noradrenergic system.

Jan Haaker, Dr.rer.nat.
Systems Neuropharmacology research group
Department of Systems Neuroscience
University Medical Center Hamburg-Eppendorf

The colloquium lectures of this semester take place online!
If you want to attend, please write to colloquium.psychologie@univie.ac.at and you will be sent an online participation link.