

## **Cognitive and Neural Mechanisms of Stress Resilience: Basic Concepts and First Insights from Longitudinal Studies**

### **Abstract**

In the field of resilience, there is a dire need for prospective-longitudinal research with frequent and repeated monitoring of stressors, mental health changes and potential resilience mechanisms (Kalisch et al, Nat Hum Behav 2017). Professor Kalisch will discuss some of the basic conceptual issues of resilience research, give an overview of existing results from longitudinal studies, and present first, preliminary insights from an ongoing study (the Mainz Resilience Project, MARP). He will finish by proposing a general framework for resilience research taking into account dynamic systems theory.

In MARP, it specifically investigates resilience mechanisms in emerging adulthood, a phase in life that is marked by frequent new onset of stress-related problems or exacerbation of existing problems. Prevalence of depression and anxiety in this age range is on the rise. MARP aims at identifying resilience mechanisms that protect young adults against the development of transition-related dysfunctions, based on positive appraisal style theory of resilience (Kalisch et al, Behav Brain Sci 2015). The subjects (N=200, study inclusion 18 years) are regularly monitored over several years for adverse life events and daily hassles (stressors) and mental health changes, using a new online tool. A dedicated extensive lab battery (behavior, MRI, biosamples, psycho-social variables) is applied every 1.75 years to assess protective functions. First results indicate that composite neural/behavioral indices of extinction memory, volitional (cognitive) reappraisal and response inhibition at baseline exert a dampening influence on increases in mental health problems related to stressor exposure early in the transition phase, suggesting protective function.