COGNITIVE ADAPTATION UNDER STRESS: HOW DOES IT WORK?

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Mechanisms and Disturbances in Memory Consolidation: From synapses to systems
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The exposure to stressful events triggers a number of cognitive changes that may help the organism to cope with the current stressor as well as with similar events in the future.

It has been known for decades that stress may boost memory formation but impair memory retrieval. More recently, it was further shown that stress may alter the contribution of multiple, anatomically and functionally distinct memory systems to behavior.

Initial studies on navigation learning, classification learning and instrumental learning demonstrated that stress promotes a shift from flexible 'cognitive' to rather rigid 'habit' memory systems.

Recent data show a similar shift in the control of fear learning. The shift towards simpler forms of learning is thought to be beneficial for performance under stress. However, while being generally adaptive for coping with an ongoing stressor, the stress-induced shift towards cognitively less demanding forms of learning and memory may, in vulnerable individuals, be a risk factor for psychopathology.

Prof. Schwabe's lecture is hosted by Prof. Yee Lee Shing (PI, SFB1315 subproject Bo4, Goethe Universität, Frankfurt am Main)