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13:42

Extinction Learning: Neural Mechanisms, Behavioral Manifestations, and Clinical Implications

Raum: Audimax Foyer

Thema:

Leitung: Sarah Starosta

Präsentationsart:
Poster

Sitzungsdauer:
1 Minuten

Vortragsdauer:
1 min pro Poster

In our everyday life we are faced with the challenge to continuously store new information and adapt our behavior to new requirements. This includes recognizing that once learned contingencies between events in our environment are not valid anymore. Consequently, we have to change our response pattern. This process – termed extinction – is characterized by a decrease of responding to a conditioned stimulus (CS) when that stimulus is no longer followed by an unconditioned stimulus (UCS). Due to behavioral phenomena like spontaneous recovery, saving, reinstatement, and renewal, it is assumed that extinction constitutes a new learning process rather than unlearning or forgetting. Unlike original acquisition, the new association is inhibitory in nature and particularly context dependent. Another mechanism to change an existing memory trace is reactivation by a reminder cue which can change the status of a memory trace from stable to labile (reconsolidation). This offers the opportunity to alter the to-be-reconsolidated memory. While the process of original acquisition is well studied, the underlying mechanisms of extinction learning and reconsolidation are much less understood. Since some psychological disorders like phobias are argued to rely on the disability to update a consolidated memory, a profound understanding of the mechanisms and modulators for updating a consolidated memory is critical for a successful development of new treatments. This poster group presents research with different perspectives on extinction and reconsolidation (biological, behavioral, clinical). It includes work on various species (humans, rats, pigeons) and multiple brain regions (i.e. prefrontal cortex and hippocampus). In addition, diverse paradigms (classical/instrumental conditioning) and methods (pharmacological interventions, fMRI, single unit recordings) are applied. These multiple approaches are unified by the goal to describe the behavioral phenomena and unravel the underlying neural mechanisms of extinction and reconsolidation for a translation from basic to clinical science.

A within-subject appetitive conditioning paradigm to assess the role of the hippocampus and the 'prefrontal cortex' for extinction learning and renewal in pigeons

| 01.03. | 03. | 08. |

Redner:

Daniel Lengersdorf | Bochum | DE

» Details

Single-neuron activity changes during acquisition, extinction, and reacquisition of an operant response

| 01.03. | 03. | 08. |

Redner: