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Talks by rising stars of neuroscience

Brain-body interactions that modulate fear

Alexandra Klein - Kheirbeck Lab (UCSF)

In most animals including in humans, emotions occur together with changes in the body, such as variations in breathing or heart rate, sweaty palms, or facial expressions. It has been suggested that this interoceptive information acts as a feedback signal to the brain, enabling adaptive modulation of emotions that is essential for survival. As such, fear, one of our basic emotions, must be kept in a functional balance to minimize risk-taking while allowing for the pursuit of essential needs. However, the neural mechanisms underlying this adaptive modulation of fear remain poorly understood. In this talk, I want to present and discuss the data from my PhD work where we uncover a crucial role for the interoceptive insular cortex in detecting changes in heart rate to maintain an equilibrium between the extinction and maintenance of fear memories in mice.

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