IGSN ‧ SYMPOSIUM

Monday, February 11ᵗʰ 2019 ‧ 15.00 (3 pm)   **FNO – 01 / 117**

Olfactory perception and information processing in the piriform cortex

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Encoding of odor memories in the olfactory cortex

Odor perception and behavioral responses to odors strongly depend on experience, and learned odor-context associations often last for the lifetime of an animal. The cellular and neural circuit mechanisms underlying olfactory learning and memory, however, remain poorly understood.

We have used intersectional, cFos-based genetic manipulations ("Fos-tagging") to show that olfactory fear learning activates sparse ensembles of neurons in mouse piriform cortex. We find that chemogenetic silencing of these Fos-tagged piriform ensembles selectively interferes with odor fear memory retrieval, without compromising odor detection and discrimination. Furthermore, artificial reactivation of Fos-tagged piriform neurons mimics odor-evoked memory recall. Together, our experiments identify piriform cortex as an essential substrate for olfactory learning and memory.

Host:

HANNA KRUSE

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Guests are welcome!