Correlation Between Odor Composition and Neuron Response in the Olfactory Cortex of Mice

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A big question in the neuroscience community pertaining to our sense of smell is how the olfactory cortex is able to distinguish between millions of odors. I hypothesized that chemical composition of the odors determined how neurons responded to them. Using already-collected neuron response data, I quantifiably categorized a panel of 15 odors, calculated how similar these odors were according to their categories, and compared these similarities to how similar neuron responses to said odors were in the olfactory cortex. Ultimately, it was concluded that chemical similarity does not correlate to neuron response similarity, but the methodology I created opens the door for more research to be done into this topic.

Awards Won: