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“Neural circuit mechanisms underlying taste and hunger integration in Drosophila”

Animals use the sense of taste to guide their food choices. For example, sweet taste drives the consumption of caloric carbohydrates, while bitter taste can signal the presence of toxins. I will present recent work from my lab on mechanisms in the Drosophila brain that translate taste information into feeding behavior. These mechanisms include a novel class of pharyngeal neurons dedicated to sustaining the ingestion of sweet compounds, a presynaptic feedback system underlying sweet and bitter taste integration, and monoaminergic modulation of bitter taste output by a hunger-regulated neuron in the fly brain.