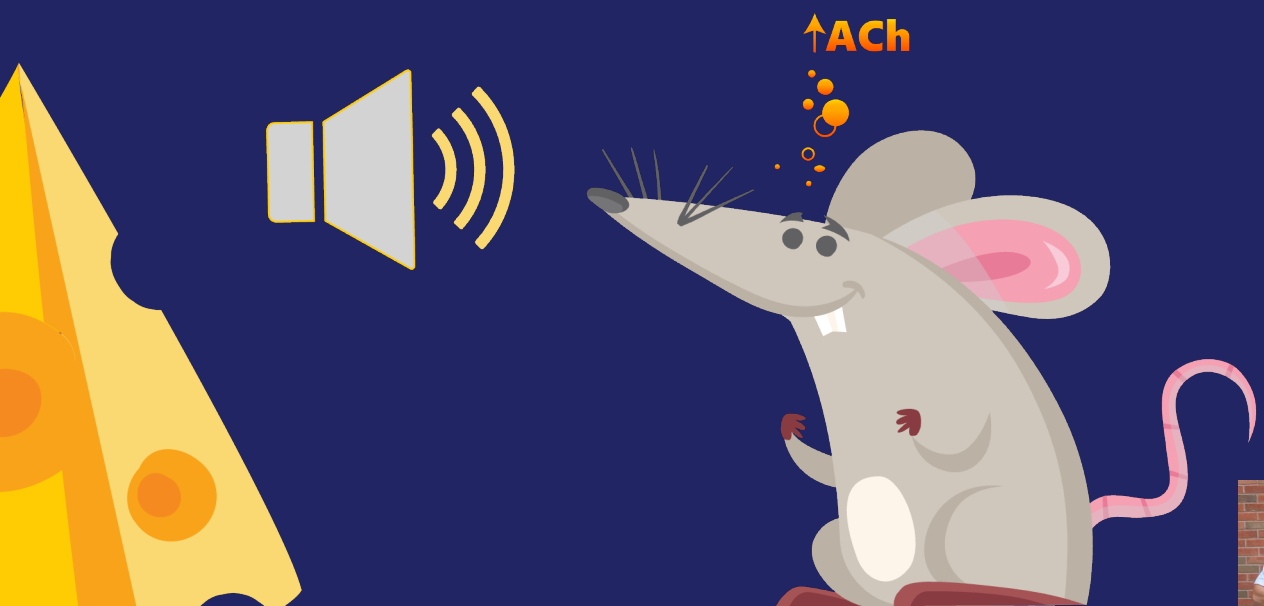
Acetylcholine **(ACh) release** in the basolateral amygdala (BLA) **evolves as animals learn** about actions and cues that lead to reward.



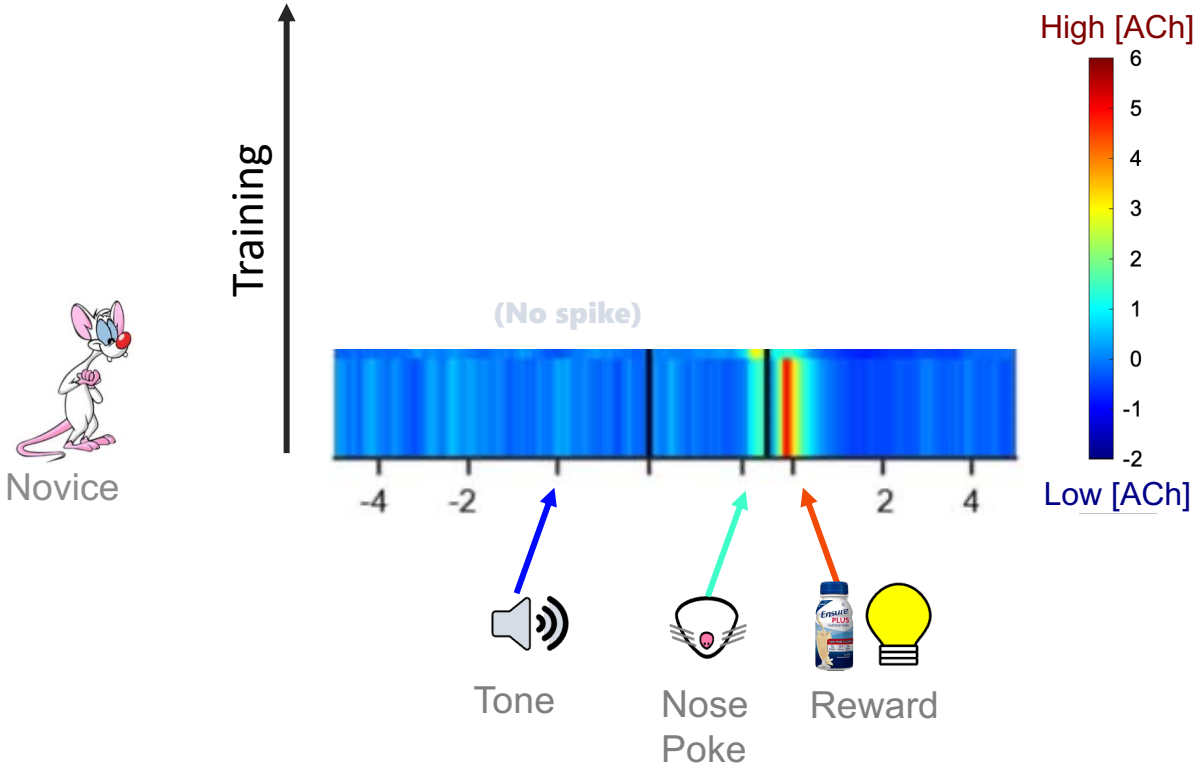
In **novice** animals, BLA (ACh) increases **when they earn the reward**…

Novice Reward ACh

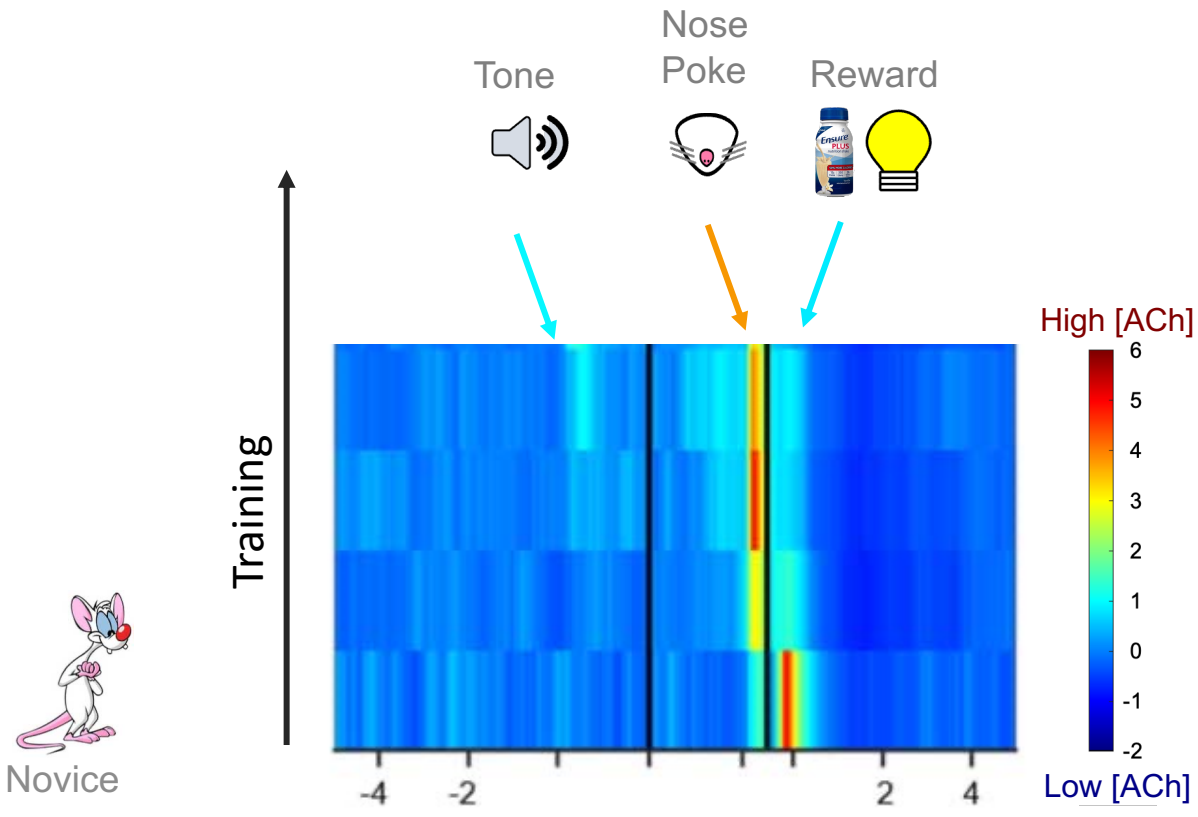
In trained, **expert** animals, ACh increases when they hear the cue **before the reward**...

Expert Tone ACh

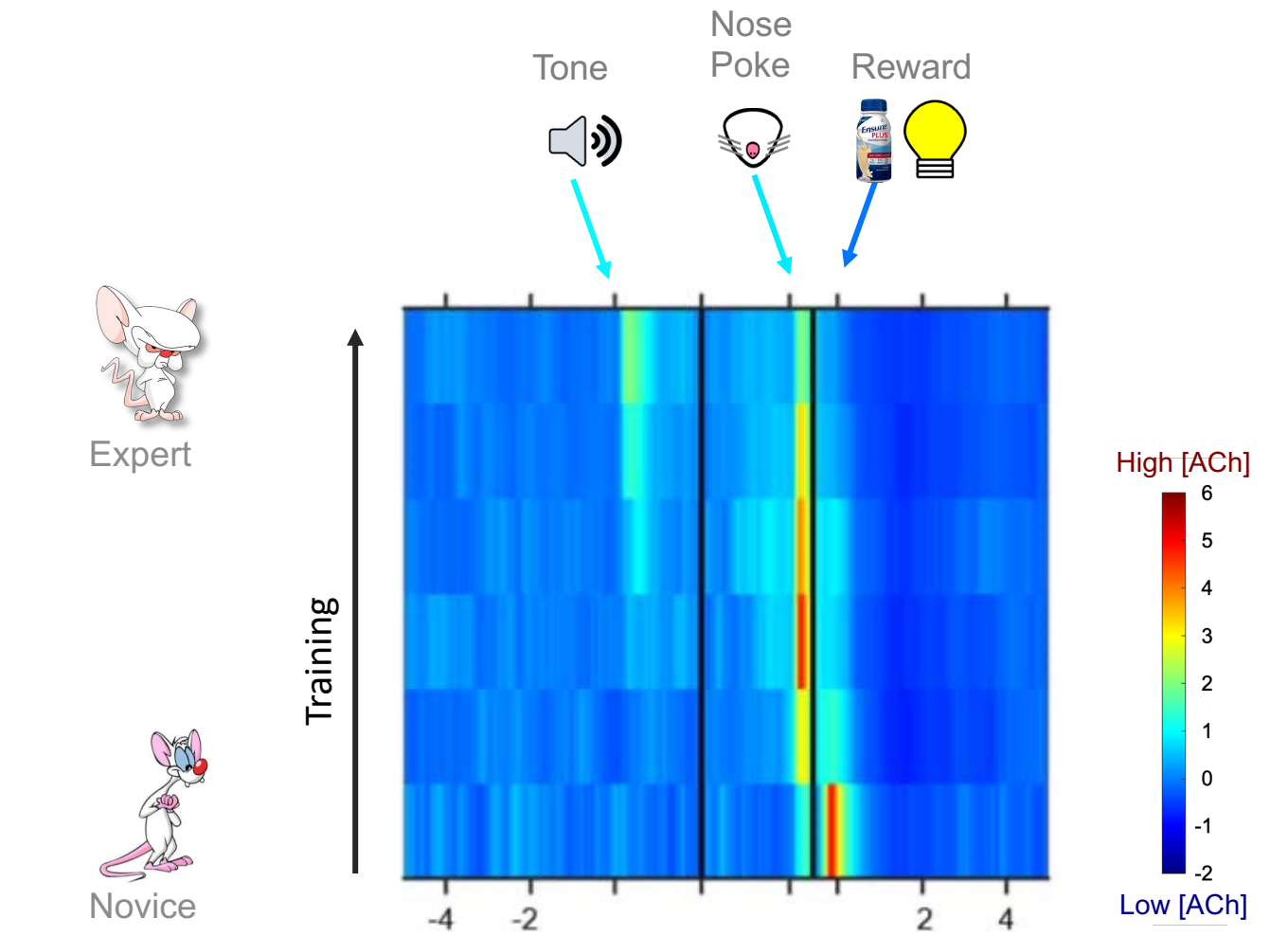
Notice that **in untrained mice**, **ACh** doesn't really spike until **the reward**...



With more training, ACh release shifts earlier…

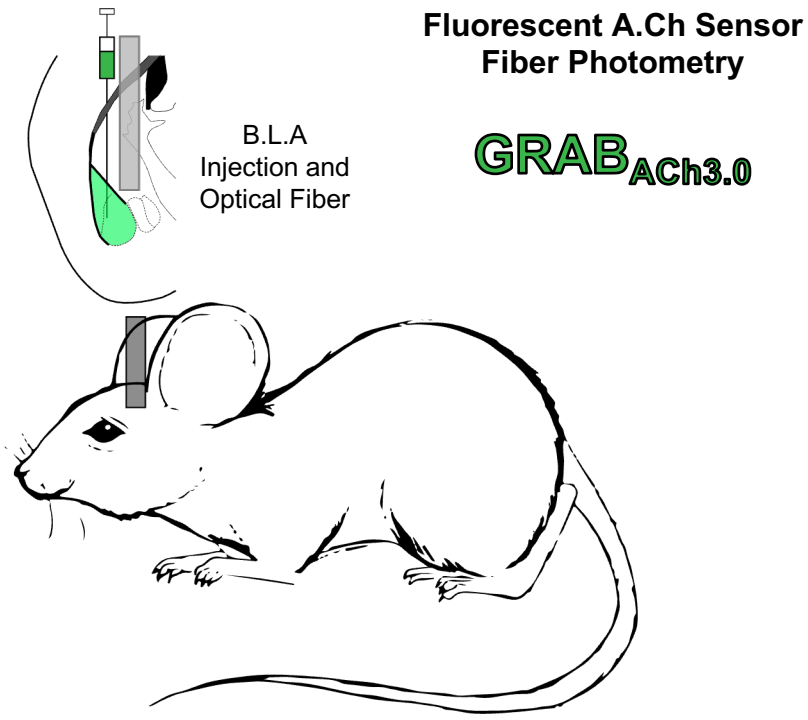


Here, in the **expert mouse**, you can see ACh spike **earlier, on the tone**...



Methods

We recorded ACh in the B.L.A with Fluorescent ACh Sensor Fiber Photometry



The takeaway:

BLA ACh signaling carries important information about salient events in cue-reward learning

Thanks!

Watch the video version of this poster with extra detail, including where we increased ACh and improved learning.

Read the paper for details on our second study that manipulated ACh.

Contact Rick Crouse via email or Twitter