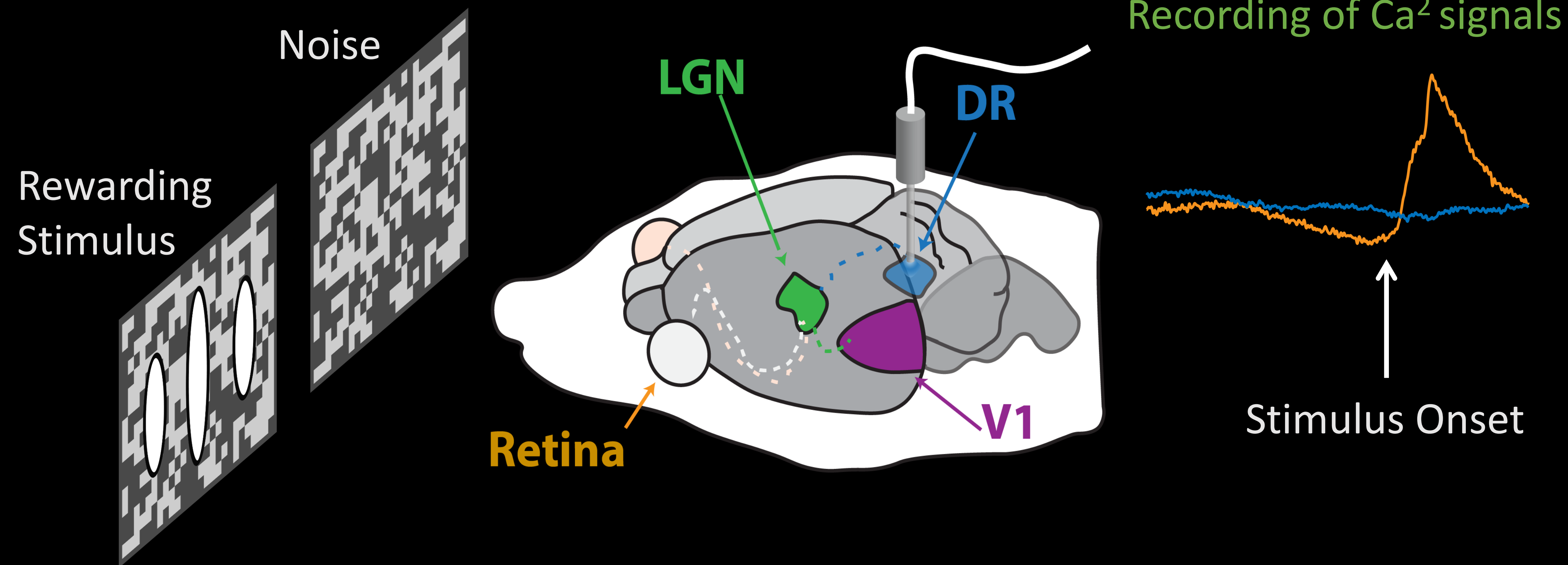


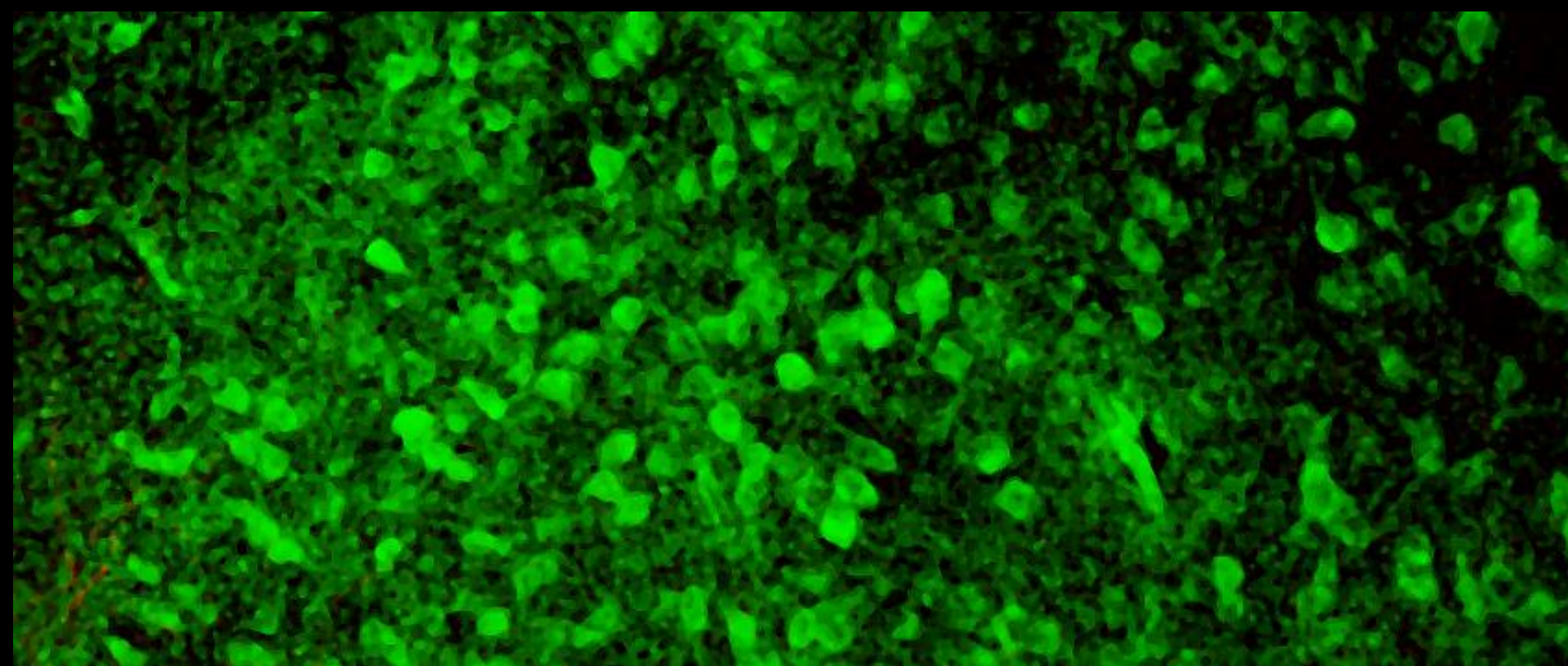
The role of the dorsal raphe nucleus in visually guided behavior

Jonas Lehnert, Jamie Halperin, Erik Cook, Anmar Khadra, Arjun Krishnaswamy

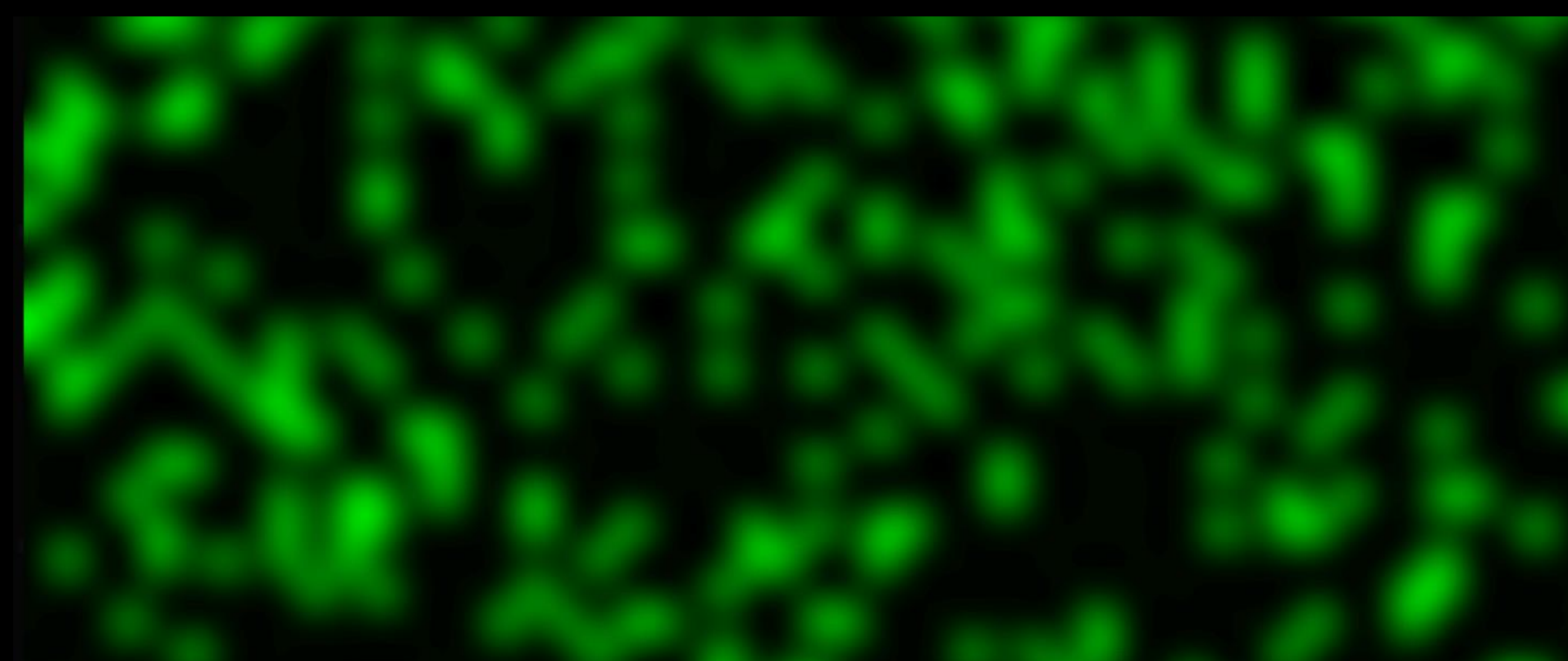
McGill University, Department of Quantitative Life Science, Department of Physiology



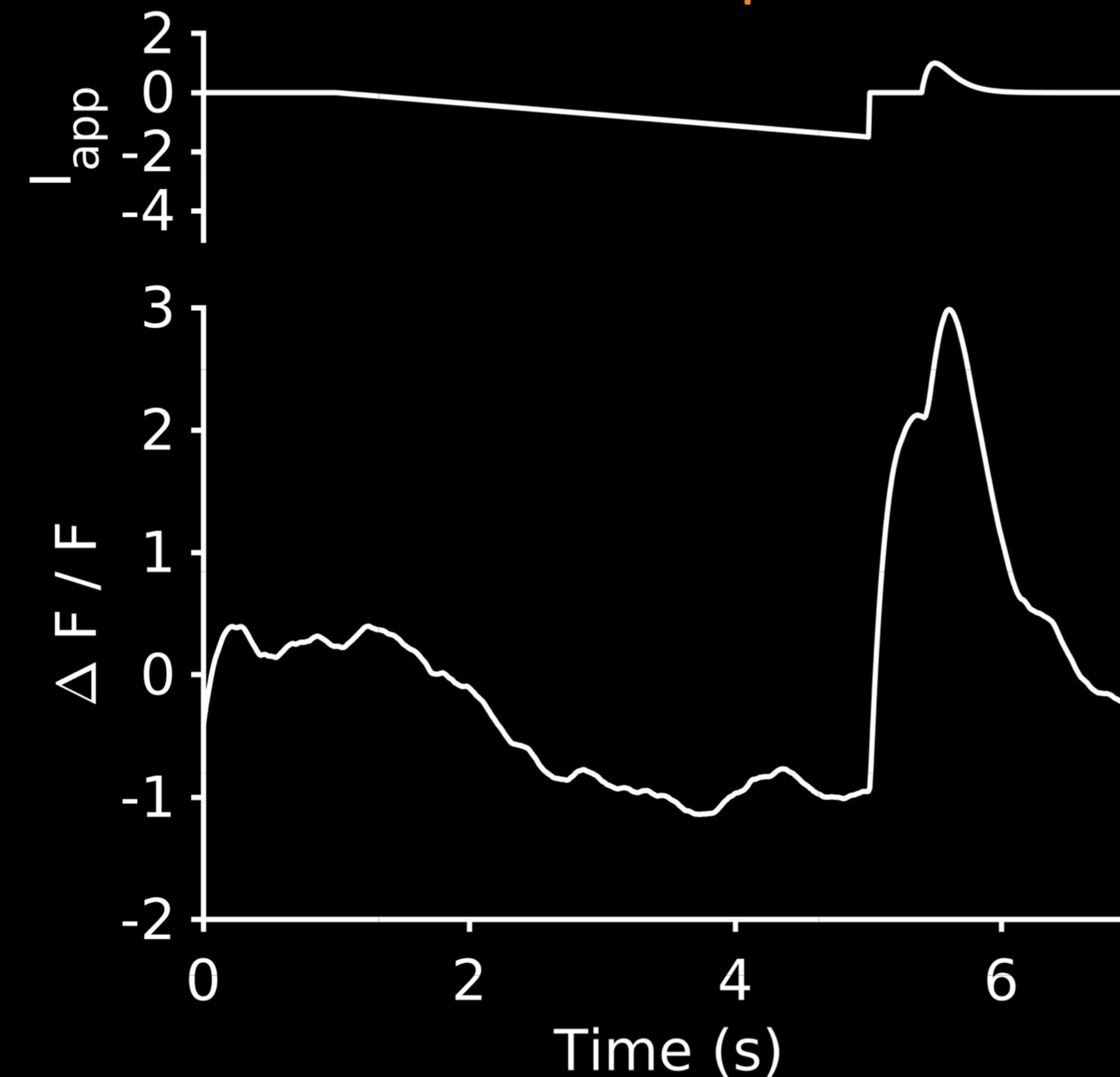
Real Neurons



Simulated Neurons



Simulated Ca^{2+} Responses



Project Summary

- **Background:** 90% of lateral geniculate nucleus come from regions other than the eye; 30% come from the dorsal raphe nucleus (DR) [1]. DR reflects internal states such as hunger, reward and satiety [2].
- **Hypothesis:** DR informs visual thalamus about relevant stimuli.
- **Goal:** Record DR neurons of a mouse that is presented with rewarding visual stimuli.

Result Summary

- Developed VR-arenas to measure visually guided behavior
- Implemented fiber-photometry recordings from DR
- DR activates to a rewarding stimulus
- Model DR neurons mimic endogenous responses