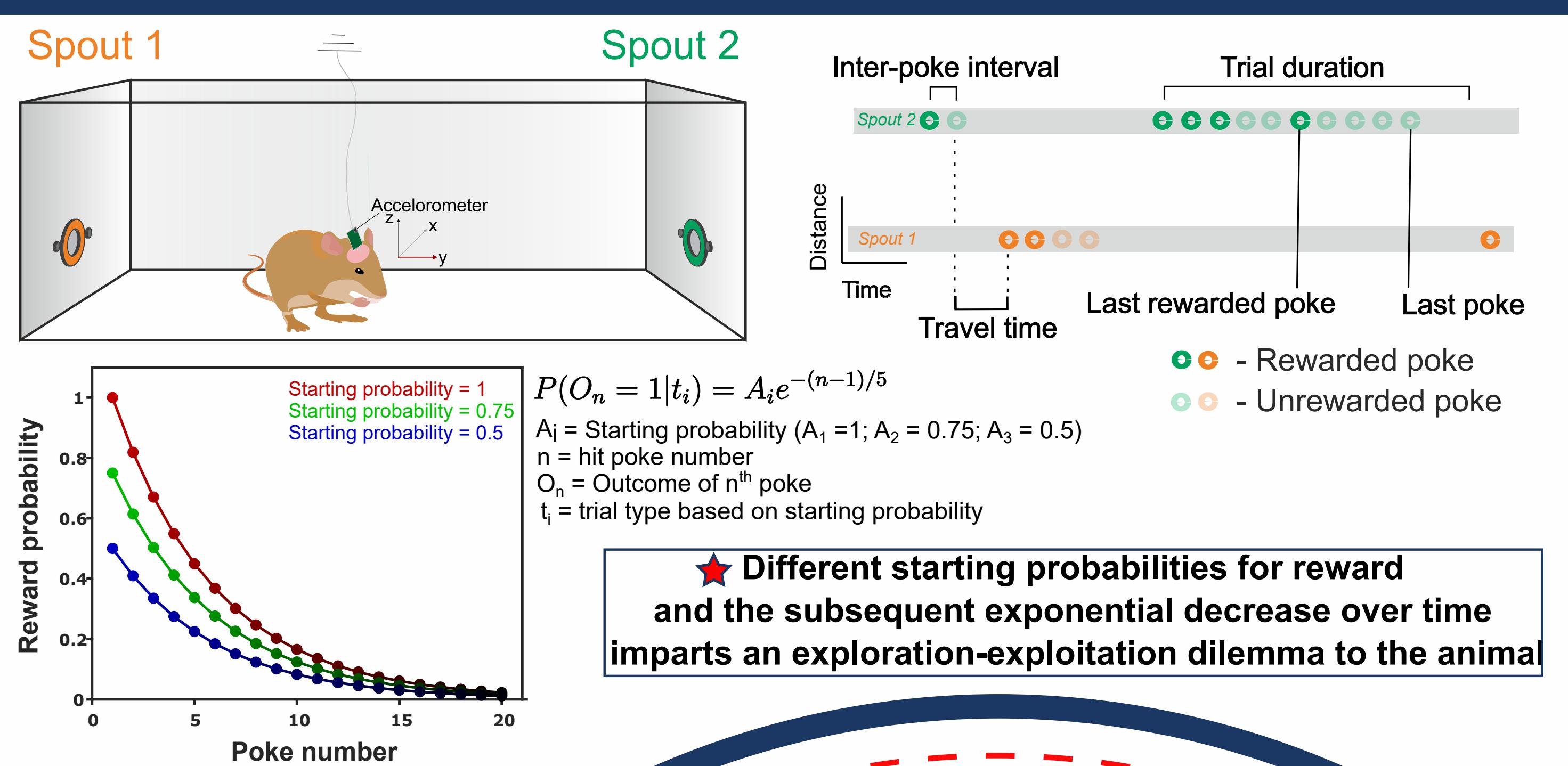


Unraveling the Neural Mechanisms of Decision-Making in Uncertain Environments: Insights from a Probabilistic Foraging Task in Mongolian Gerbils

Vishal Kannan¹, Parthiban Saravanakumar¹, Frank Ohl^{1,2,3}, Max Happel^{1,3,4}

¹Department of Systems Physiology of Learning, Leibniz Institute for Neurobiology, Magdeburg, Germany; ²Institute of Biology, Otto-von-Guericke University, Magdeburg, Germany; ³Center for Behavioral Brain Sciences (CBBS), Magdeburg, Germany; ⁴MSB Medical School Berlin, Faculty of Medicine, Berlin, Germany

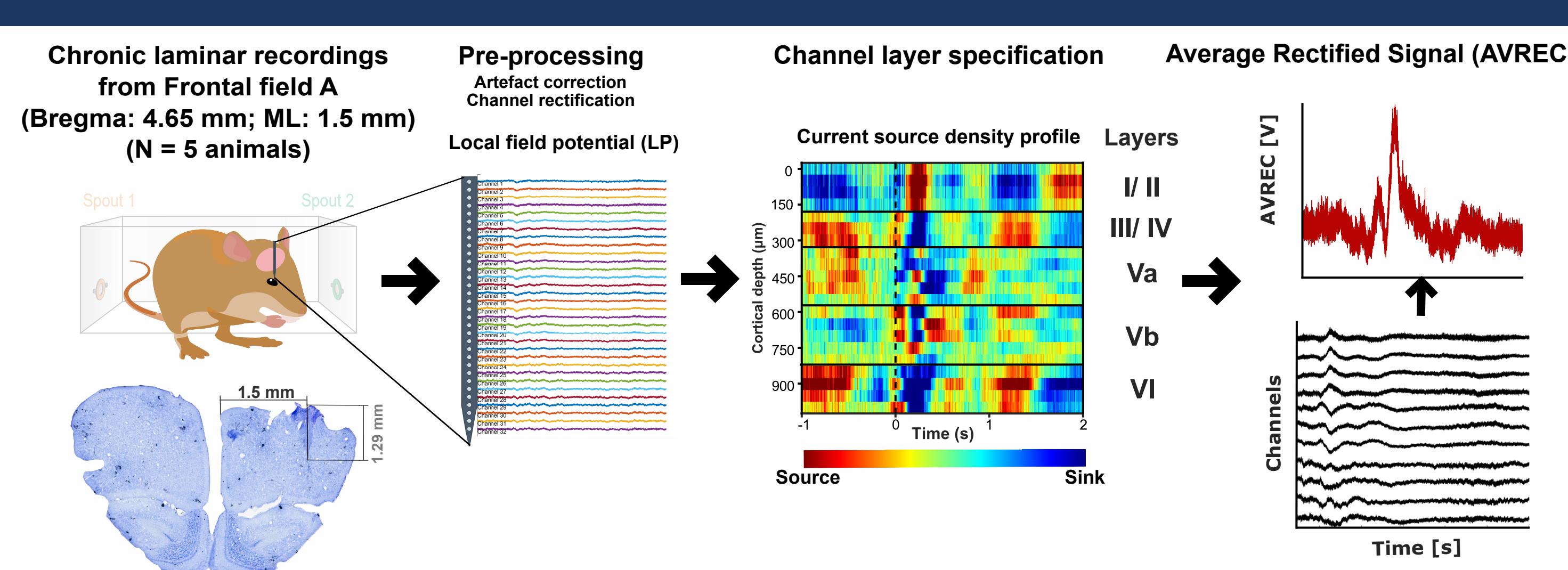
The situation - probabilistic foraging task



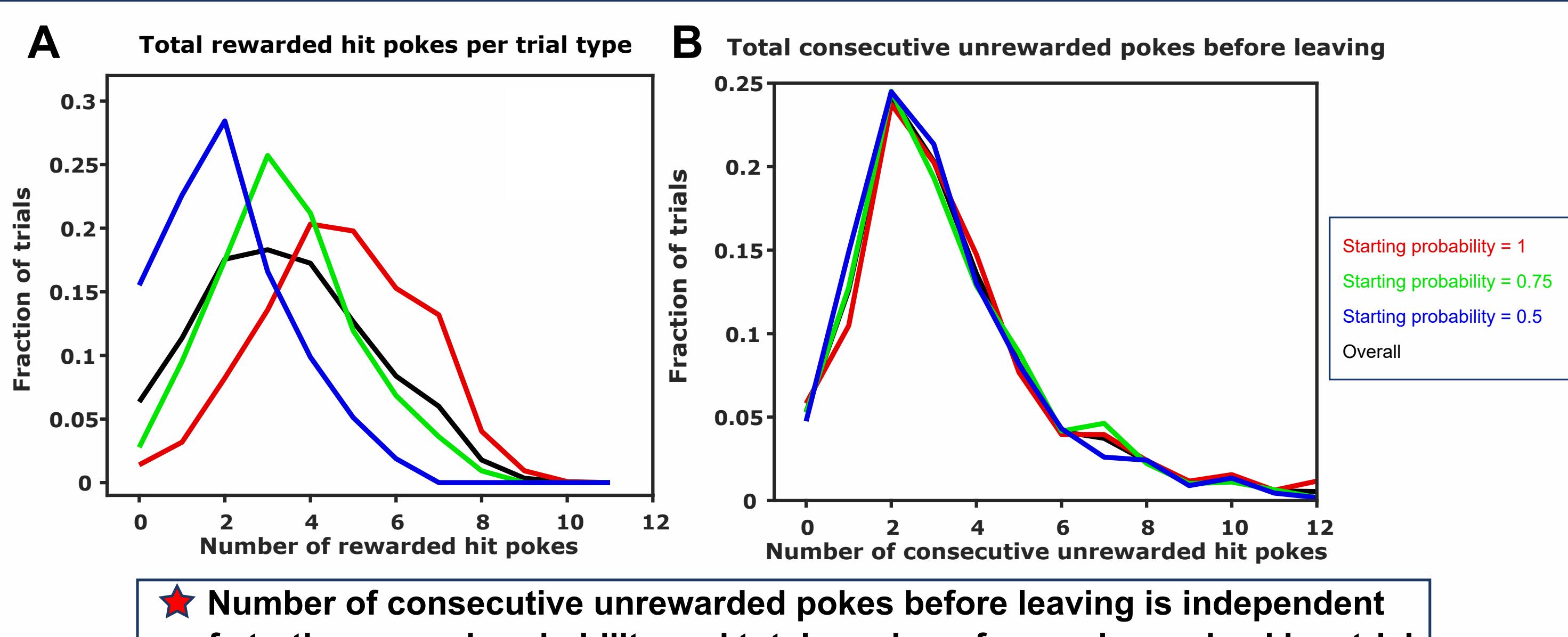
Should I stay or should I go?



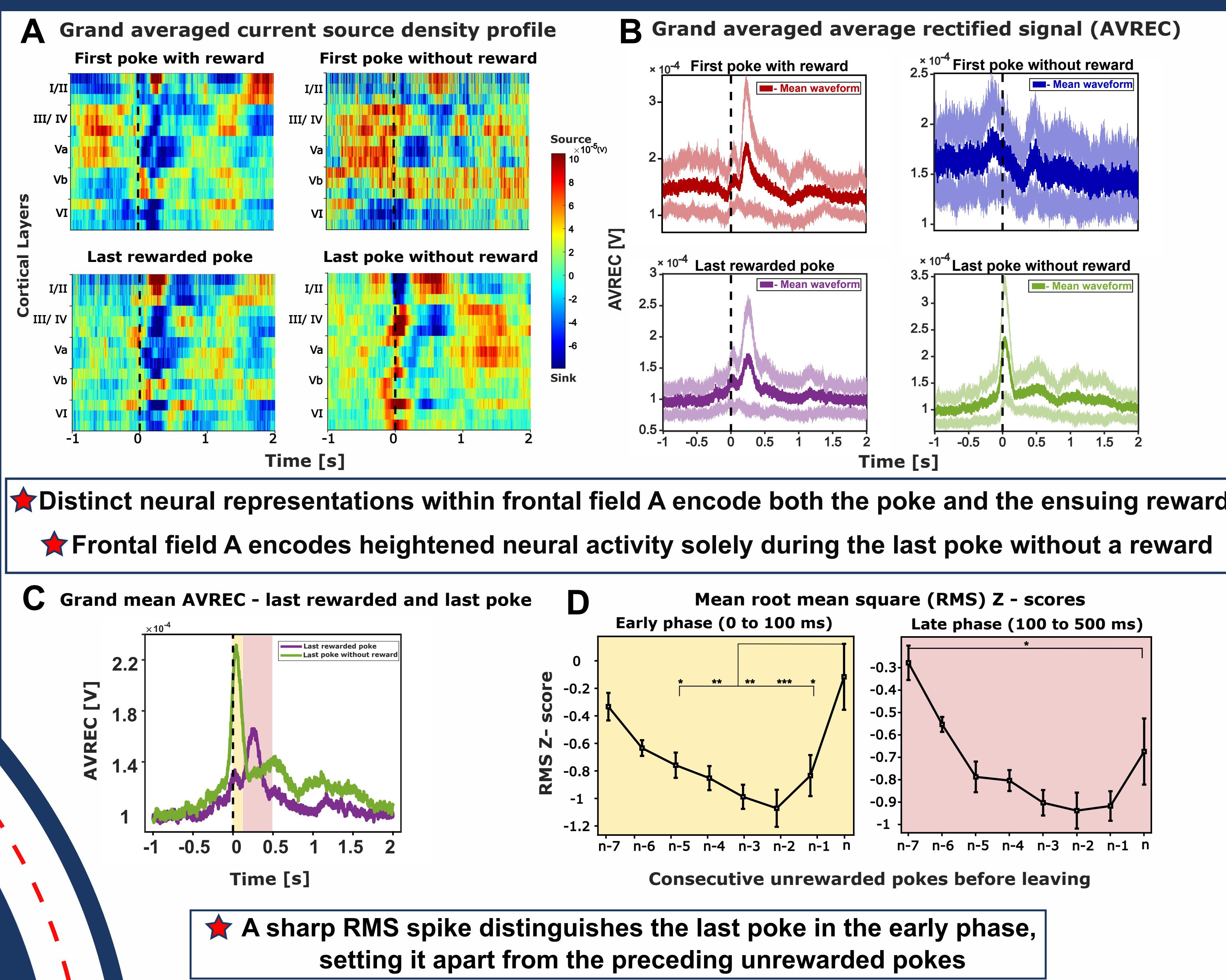
How did we study this?



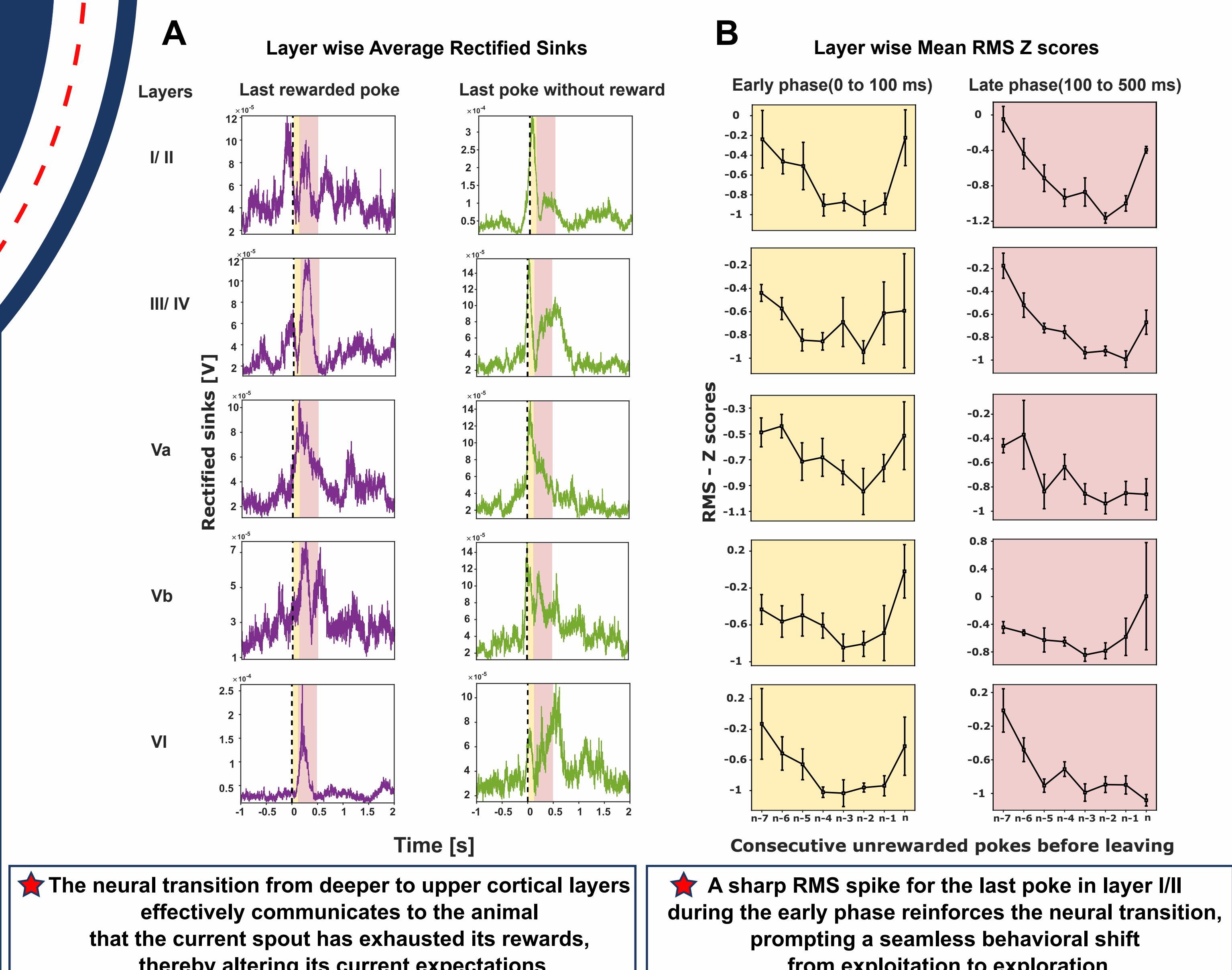
Animals make inference-based decisions



Distinct motor- and reward-related frontal activity



Layer-specific frontal motor- and reward-related activity



Concluding insights & perspectives

Conclusion

- ◆ Probabilistic foraging in the Mongolian gerbil can be used to investigate the role of frontal cortex in exploration/exploitation dilemma and attentional resource allocation
- ◆ Cortical layers in frontal cortex seem to play a decisive role to integrate current reward expectation and adequate search strategies
- ◆ Reinforcement Learning Modeling can help to investigate the trial-by-trial parameters, that underlie animal's inference-bound adaptive decision-making behavior, providing insights into the neural circuitry of attentional resource allocation

Perspectives

Acknowledgement

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