



EXAMINATION COMMITTEE – INTEGRATIVE NEUROSCIENCE

Proposal of research topic for Master's thesis

Matriculation No.	2	4	0	1	3	6			
Surname	K	A	N	N	A	N			
First name	V	I	S	H	A	L			

Proposed title:

Navigating Uncertainty: Neural Mechanisms of Probabilistic Foraging in Mongolian Gerbils

Proposed research objectives:

My research endeavors to unravel the neural mechanisms of decision-making in gerbils under conditions of uncertainty, particularly focusing on how attentional resources are allocated in the frontal cortex during the exploration-exploitation dilemma. This will be studied using a probabilistic foraging paradigm, where gerbils are presented with varying reward probabilities to simulate real-world foraging scenarios. The primary objectives include:

1. Analyzing gerbil's decision-making behavior during the foraging task to understand their responses to uncertainty.
2. Investigating the role of the frontal region A (FrA) — analogous to human frontopolar cortex — in modulating decision boundaries shaped by reward probabilities.
3. Examining whether the FrA employs layer-dependent processing for adapting search strategies under different resource availability scenarios.

Date of assignment (dd/mm/yyyy):

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First examiner/ thesis supervisor

Second examiner

Stamp and signature

Stamp and signature

- A confirmed topic can be declined only once and only within 6 weeks of the date of assignment.
- The written Master's thesis must be completed and filed within 6 months of the date of assignment.
- Upon well-founded application and with the agreement of the thesis advisor, the Examination Committee may extend the filing deadline by a further 6 months.
- I declare that I have neither submitted, nor received, nor are being examined in, a Master's thesis on the same or a similar topic at another university.

Date/Signature (Proposer): 09.01.2024 /

Action of Examination Committee:

O – The proposed thesis topic is confirmed. O – The proposed thesis topic is NOT confirmed.

Date/Signature (Chair of Examination Committee):

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