CeNT-28-2026

Director of Centre of New Technologies of the University of Warsaw, with the Project Leader, announce opening of the competition for the position of PhD Student in the Laboratory of Neuroeconomics– Centre of New Technologies of the University of Warsaw.

JOB OFFER

Position in the project:	PhD Student
Laboratory:	Laboratory of Neuroeconomics
Scientific discipline:	Neuroscience
Keywords:	Neural circuits, computational neuroscience, neuroeconomics
Job type (employment contract/stipend):	stipend
Number of job offers:	1
Remuneration/stipend amount/month:	For students admitted to the doctoral school outside the admission limit: PLN 5,125.24 per month (gross gross) for the first 24 months and, following a positive mid-term evaluation, PLN 6,486.74 per month (gross gross) for the remaining 12 months. For students admitted to the University of Warsaw doctoral school within the admission limit: a scholarship of up to PLN 3,000 per month (gross gross), in addition to the doctoral scholarship paid by the doctoral school as indicated above.
Position starts on:	October 1st, 2026
Maximum period of contract/stipend agreement:	36 months with possibility of extension for another 12 months
Institution:	Centre of New Technologies, University of Warsaw
Project leader:	Alicja Puścian, PhD, DSc
Project title:	From group pressure to personal choice: The prefrontal circuits of social influence on individual reward preference
NCN programme:	OPUS 29
Project description:	We live in a time when societal discourse is increasingly shaped by actors strategically exploiting emotional influence and social pressure to sway individual decisions, ranging from political choices to consumer behavior. From this perspective, understanding the brain mechanisms through which social influence operates is crucial for explaining decision-making in contexts ranging from social media to real-life situations. Indeed, social influence plays a central role in shaping choices, often overriding cost-benefit analysis. While this phenomenon is a well-documented driver of conformity, little is known about its neurobiological basis. Due to substantial experimental limitations in studying the neural mechanisms of social influence in humans, we will perform experiments in laboratory mice, a well-established model of

	mammalian behavior. Evidence suggests that mice, like humans, develop individual reward preferences shaped by their social environment. These preferences emerge through spontaneous interactions within social groups and can dynamically change depending on context. In this project, we will investigate how social influence is integrated into individual preferences and translated into reward-motivated behavior. This question will be addressed through an integrative lens, combining approaches in systems neuroscience, behavioral psychology, and computational science. Behavioral testing will be conducted using Eco-HAB, an automated, naturalistic system measuring voluntary behavior in group-housed mice. The system enables high-resolution monitoring of social interactions alongside individual preference evaluation. Additionally, the setup supports translational relevance while enhancing reproducibility and animal welfare. Further, we will focus on the role of the prefrontal cortex (PFC), a brain region consistently implicated in processing social information and reward evaluation in both humans and mice. Namely, we will investigate specific neuronal populations in the medial PFC, which, based on pilot data and literature, we hypothesize to be differentially involved in social influence, and manipulate their activity to test causality. We will explore how the strength of social influence can be altered by selective modulation of neurons in the mPFC. We will target major interneuron classes: parvalbumin (PV), somatostatin (SOM), and vasoactive intestinal peptide (VIP)-expressing cells, as well as excitatory projection neurons. Wireless optogenetics and ultrapotent, long-lasting chemogenetics will be applied to manipulate neuronal activity in freely behaving animals under ecologically valid conditions. These approaches will allow us to assess short- and long-term effects, respectively, of mPFC regulation on social susceptibility. In addition, the project includes the development of advanced computational tools for behavioral and neuronal analysis. We will build upon our previously published affiliation assessment algorithm to extract social influence dynamics from multi-animal datasets. We will also implement novel analytical pipelines, including the development of an algorithm to assess the stability of preference patterns and their transitions over time as a function of social influence. This computational work, conducted in collaboration with mathematicians from ETH Zurich, will be paired with predictive machine learning models to estimate how behavioral outcomes vary by social context and neural circuit manipulation. These models will serve not only to interpret experimental data but also to identify key predictors of susceptibility to social influence. Taken together, in this project we aim to: 1) define the behavioral imprint of social influence on individual reward preferences, 2) develop analytical tools to model the dynamics of socially driven changes in preferences, and 3) manipulate neuronal activity in the mPFC to modulate the strength of social influence on short- and long-term decision-making. This work addresses a critical gap in our understanding of how social environments shape individual choices and how brain circuits mediate the translation of social information into individual motivation. By combining ethologically valid behavioral assays, advanced computational approaches, and short- and long-lasting neuronal manipulations, the project offers a coherent and feasible plan for uncovering fundamental mechanisms of social influence on decision-making.
Key responsibilities include:	A PhD student recruited for the project will be involved in the advanced analysis of neurobehavioral data. They will work closely with the Principal Investigator and other team members to implement and refine computational methods for extracting meaningful patterns from large, multimodal datasets acquired from behaving animals. These

	analyses will focus on linking patterns of neuronal manipulation (cruciality of different cell classes) with behavioral outcomes in social decision-making contexts. The student will adapt advanced tools, including dimensionality reduction, time-series analysis, and supervised machine learning, to identify neural influence on behavioral motifs. A major focus will also be on developing and testing novel algorithms for detecting behavioral trajectories to reveal previously undetected patterns in high dimensional data. The student will be expected to take an active role in designing analytical pipelines, visualizing results, and contributing to the interpretation of findings. This position is ideally suited for a student interested in applying computational methods to real-world neuroscience problems.
Profile of candidates/requirements:	The competition is open for persons who meet the conditions specified in the regulations on the allocation of resources for the implementation of tasks financed by the National Science Centre for OPUS 29 grant. MSc degree in exact sciences, natural sciences or related discipline. The MSc degree should be obtained before the date of employment in the project. - Confirmed status of a PhD student (on the date of starting work in the project at the latest). Please note: You can use a foreign equivalent of a Polish academic degree if it meets at least one of the following criteria: • is covered by the provisions of an international agreement on the equivalence of education, • was issued by an authorized institution operating in an EU, OECD or EFTA Member State, • was issued in another country and recognized on the basis of the regulations on the recognition of academic degrees obtained abroad (learn more about the procedure for the recognition of academic degrees: https://dziennikustaw.gov.pl/D2018000187701.pdf). A person who will be recruited for this position is expected to have experience in applying computational approaches to analysis of big data. E.g. person with a degree in Neuroinformatics or a related field, with demonstrated strong analytical skills and a solid background in neuroscience methods. Familiarity with programming languages commonly used in data science (most notably Python and MATLAB) is expected. Experience with machine learning, signal processing, or neural data analysis will be a strong asset. The person should be highly motivated, capable of working independently, and open to interdisciplinary collaboration. Working knowledge of English is required due to the international nature of the project and the scientific literature involved.
Required documents:	1. Cover letter, including **the explicit statement clarifying fitness for the project** and the specific position-related tasks.; 2. Current curriculum vitae; 3. Copy of MSc certificate (or, if the MSc certificate has not been obtained yet, a certificate/document about the date of MSc defence); 4. Document confirming the status of a PhD Student (to be provided before starting work in the project); 5. Signed information on the personal data processing; 6. 2 letters of reference and direct contacts (emails and/or telephone no.) to people providing references. **Please note: The lack of the explicit statement clarifying fitness for the project and the specific position-related tasks in the cover letter will be disqualifying the application**.

	Before entering the competition, candidates are obliged to familiarise themselves with Internal Reporting Procedure.
We offer:	We are an ambitious new team where challenges are there for the taking. As a PhD student, you will be given significant autonomy. We will support you by providing: - mentorship supportive of professional development, - funding for attending scientific schools/workshops and international conferences, - research conducted in a highly interdisciplinary, international environment, - support in grant writing.
Please submit the following documents to:	a.puscian@cent.uw.edu.pl with note “PhD position 2 Opus 29, neuroeconomics” in the email title.
Application deadline:	26.06.2026.
Date of announcing the results:	31.08.2026
Method of notification about the results:	CeNT website