**Проектное предложение**

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| Тип проекта | *исследовательский* |
| Название проекта | Digital learning technologies: Brain-computer interface with children and adults |
| Подразделение инициатор проекта | NeuropsyLab, Department of Psychology |
| Руководитель проекта | Marie Arsalidou |
| Заказчик проекта / востребованность проекта | Cognitive Developmental Neuroscience |
| Основная проектная идея / описание решаемой проблемы | The objective of this project is to examine the influence of Brain-Computer Interfaces on cognitive and neurophysiological indices, across development. |
| Цель проекта | This study is a collaboration with Impulse-Neiry. (<https://impulse-neiry.com/> ). We will examine the effects of brain-computer interface on cognitive functions: cognitive inhibition, cognitive flexibility, attention, working memory, etc. at different ages: younger and middle school age, and in adults over 18 years of age. |
| Планируемые результаты проекта, специальные или функциональные требования к результату | Specifically, we will use cognitive measures and electroencephalography (EEG)-data in school-aged children and adults. We will also collect data on the children’s core cognitive abilities using measures of executive function. EEG will be used to analyze brain activity during task performance. Participants will be adults (>18 years) and children whose parents provide consent (ages 7 – 17 years) will be tested at their school or in the lab (e.g., at HSE or Impulse-Neiry) with behavioural measures. |
| Требования к участникам с указанием ролей в проектной команде при групповых проектах | * English for communication with the teacher * Experience in working with children is an advantage * Experience of working with EEG is an advantage |
| Количество вакантных мест на проекте | 15 |
| Проектное задание | Students will receive training on cognitive-developmental assessments and EEG safety. They will be asked to assist in behavioral data collection in schools in Moscow, and participate in EEG data collection and analysis. Our measures mainly focus on higher-order cognitive functions. Students will have the opportunity to learn about related data analyses. Students need to be interested in cognitive development and developmental research. |
| Критерии отбора студентов | *Motivation* |
| Сроки и график реализации проекта | *From 1st October 2020 to 30 July 2021* |
| Трудоемкость (часы в неделю) на одного участника | *3 hours* |
| Количество кредитов | *4 credits* |
| Форма итогового контроля | *Data collection report(G1) & EEG safety exam (G2)* |
| Формат представления результатов, который подлежит оцениванию | *Scientific reports (G3)* |
| Образовательные результаты проекта | *Profound knowledge about behavior, EEG data collection, VR game development, statistical analysis, writing scientific reports* |
| Критерии оценивания результатов проекта с указанием всех требований и параметров | *G1 (.6) + G2 (.2) + G3 (.2)* |
| Возможность пересдач при получении неудовлетворительной оценки | *Yes* |
| Рекомендуемые образовательные программы | *Psychology, Education, Neuroscience, Biology, Cognitive science, Economics and statistics, Software engineering, Applied Mathematics and Computer Science* |
| Территория | *Schools, HSE, LLC Neiry office in Moscow, Sirius, Sochi* |