**Project 1.2 The impact of age on self-representation: behavioral and neural correlates of self-related information processing in elderly population**

**Supervisor:** Prof. Anna Nowicka PhD, DSc
**Laboratory:** Neurobiology of Language
**www:** http://en.nencki.gov.pl/laboratory-of-language-neurobiology

**Background:**

Many studies to date have shown that cognitive functions deteriorate with age. This applies in particular to memory, executive functions, and the speed of information processing. However, the subject of changes in the processing of information about oneself in the elderly population has received much less attention so far, and in particular, there is little data on the influence of age on the activity of the brain when processing such information. The current project aims to fill this gap.

**Aim:**

The goals of this project are twofold. The first goal is to examine the plasticity of the self-representation in the group of older people, i.e. the ability to include in the self-concept new, abstract information (e.g. abstract shapes) arbitrarily assigned to oneself. The incorporation of new abstract information into the self-concept will be demonstrated by both behavioral (e.g. shorter reaction times) and neural measures (e.g. increased brain activity), indicating the self-preference, i.e. prioritized processing of such new information associated with the self over similar information associated with other people. Moreover, the lack of significant differences between younger and older participants will indicate a similar plasticity of the self-representation in both age groups.

The second goal, in turn, is to investigate age-related changes in the preferential processing of well-known and well-preserved information referring to the physical and psychological aspects of the self. In research on the physical aspects of self, usually pictures of the face are used, while in research on the psychological aspects of self – adjectives describing personality traits. Therefore, in this research line, photos of the participants' faces and photos of other faces, both known and unknown, and adjectives-character traits (assessed in terms of their matching to the description of oneself and other people) will be presented. For age-related changes in the preferential processing of different types of well-established and well-known self-related information, the strength of this preference will be operationalized as the difference in behavioral and neural measures between the self condition and other conditions. This effect will be directly compared in both age groups.

**Requirements:**

- MSc or MA obtained before October 2023 in mathematics, physics, psychology, biology or related fields,
- motivation to work in multidisciplinary team,
- high motivation to participate in all stages of investigations: running experiments with EEG recording, data analyses, writing manuscripts,
- fluent English,
- Polish as a native language,
- experience in conducting psychological experiments and in EEG data analysis,
- experience in statistical analyses (e.g. SPSS, JASP) and programming (e.g. Presentation, Matlab, Python)