

Purpose of Social and Neurocognitive Implicit Processes Laboratory

The Baltic International Academy has established **Social and Neurocognitive Implicit Processes Laboratory** (hereinafter referred to as the Laboratory), which enables to attract students and teaching staff for the study of various programmes – psychologists, lawyers, economists, marketers, entrepreneurs, to conduct prospective and topical research. The Academy's opportunities for collaboration with Latvian and European researchers, as well as for participation in joint international research programmes, are significantly expanding.

The **aim** of the laboratory is to provide a scientific base for carrying out research for the students of the Master's, Bachelor's and doctoral study programmes.

The Laboratory performs the following functions:

1. Research and procedure development and equipment provision for the development of practicums, Bachelor's and Master's theses;
2. Research and procedure development and equipment provision for lecturers engaged in research work in implicit social cognition, as well as development of programmes for the sociological study of socio-economic and socio-cultural behaviour and interaction of people in various spheres of public life;
3. Applied research (market research), commissioned by companies and organisations (transport, communications, industry, trade, advertising, marketing, etc.);
4. Training students in electrophysiology methods and experimental design using implicit measurements (implicit association test; subliminal evaluative priming);
5. Involving academic staff and students from BIA study programmes in interdisciplinary research within the framework of scientific and educational projects and programmes.

Methods and equipment used in the laboratory:

Methods:

1. Electroencephalography and recording of evoked potentials. Calculations based on changes in the spectral properties of the signal, correlation interactions, evoked potentials as responses to stimuli of different modalities, identification and calculation of dynamic interactions between brain regions and centres.
2. Implicit methods for studying attitudes: various experimental procedures of implicit association test and subliminal evaluative priming.
3. Explicit methods for studying attitudes and cognitive processes.
4. Quantitative and qualitative methods of sociological study of socio-economic and socio-cultural behaviour and interaction of people in various spheres of public life.

Equipment:

1. Electroencephalograph - Neurovisor NVX52. The number of synchronously recorded EEG channels is 48, the number of synchronously recorded bipolar sensor channels, galvanically isolated from the EEG

channels, is 4, and the digital signal sampling frequency is from 500 to 2000 Hz. The electroencephalograph is connected to a computer for digital signal recording using programme NeoRec.

2. To display the stimulus material, computers with the following programmes are used: the freely distributed PSYCHTOOLBOX in the Matlab environment and the proprietary E-Prime (from Psychology Software Tools, Inc.).
3. For statistical processing of experimental data, the laboratory uses Matlab and SPSS.

The following have been developed and will be used within the **bachelor study programmes**:

1. E-Prime software is designed for developing implicit tests for bachelor students' practical training.
2. The EEG method, as well as implicit and explicit tests, are used for practical assignments in the study courses "Consumer Psychology," "Psychology of Advertising and PR," "Cognitive Psychology" and "Organizational Psychology."

Implicit measures, including implicit association tests and subliminal evaluative priming, will be developed and used within **the master study programmes**. Implicit and explicit test sets are being adapted to measure attitudes toward self-esteem, attitudes toward success, attitudes toward brands, attitudes toward decision-making, consumer attitudes, etc. To measure a specific attitude, specific experimental procedures will be created that correspond to the task: stimulus images, target categories and attributes.

Potential topics for interdisciplinary research.

Fundamental research directions and development of research methodology.

1. Study of the structure and cognitive mechanisms of implicit attitudes at the behavioral and non-behavioral (neurophysiological) levels;
2. Development of implicit research methods in combination with neurocognitive methods;
3. Study of memory and learning mechanisms at the neurocognitive level;
4. Sociological research on the interaction between students and academic staff in the higher education system;
5. Studies of socioeconomic and sociocultural human behaviour and interaction in various spheres of public life.