Electrophysiology Laboratory for Assessment of Visual Processing

Offer

- Assessment of visual information processing at several different brain levels (primary association or cognitive visual area)
- Objective diagnostics of selected neuroophthalmological and psychiatric diseases monitoring of their progression or effectiveness of treatment
- Design and conduction of VEPs experiments for the theoretical research of brain functions as well as for clinical studies
- Analysis and statistical evaluation of the experimental results in a bio-signal domain

Examination: www.lfhk.cuni.cz/vyzkum/elf/vysetreni

About us

- Noninvasive registration of electrical activity of the human brain during a visual stimulation allows to evaluate the quality of visual perception and to diagnose its disorders.
- Our laboratory has a long tradition in research and development of diagnostic applications of visual evoked potentials (VEPs) and cognitive potentials.
- Recently, we developed a mobile device for testing VEPs outside laboratory conditions, which will greatly enhance their use.

Selected Publications

- Kuba M, Kubová Z, Kremláček J, Langrová J (2007): *Motion-onset VEPS: Characteristics, methods, and diagnostic use.* Vision Research, 47, 189–202
- Langrová J, Kuba M, Kremláček J, Kubová Z, Vít F (2006): *Motion-onset VEPs reflect long maturation and early aging of visual motion-processing system.* Vision Research, 46, 536–544
- Kubová Z, Kuba M, Kremláček J, Langrová J. Szanyi J, Vít F, Chutná M (2015): *Comparision of visual information processing in school-age dyslexics and normal readers via motion-onset visual evoked potentials,* Vision Research, 111, 97–104
- Kremláček J, Kreegipuu K, Tales A, Astikainen P. Pöldver N, Näätänen R, Stefanics G (2016): *Visual mismatch negativity (vMMN): A review and meta-analysis of studies in psychiatric and neurological disorderes*. Cortes, 80, 76–112
- Szanyi J., Kremlacek J, Kubova Z, Kuba M, Gebousky P, Kapla J, Vit F, Langrova J. (2017): *Pattern- and motion-related visual evoked potentials in HIV.infected adults.* Doc Ophthalmol, 134, 45–55

Publications: www.lfhk.cuni.cz/vyzkum/elf-pub

Team Members – Alphabetic Order

- Assoc. Prof. Jan Kremláček, Ph.D.
- Prof. Miroslav Kuba, MD., D.Sc.
- Prof. Zuzana Kubová, MD., CSc.
- Jana Langrová, MD., Ph.D.
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