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FP7-HEALTH-2007-A

V.I.Vernadsky Taurida National University, Crimea, Ukraine

ANXIETY DISORDERS CORRECTION THROUGH COLOR AND SOUND FEEDBACK BY EEG

:: Contact Person

Pavlenko, Vladimir (PhD.)

professor

V.I.Vernadsky's Taurida National University, Crimea, Ukraine

National Contact Point

<http://www.pfl.crimea.edu>, e-vale: pavlenkovb@crimea.edu

Contact

Telephone: +38-0652-637556

Fax: +38-0652-

:: Collaboration

Project Proposal

Title: Anxiety disorders correction through color and sound feedback by EEG

Type Details: The nature and the level of anxiety state are specifically relevant to frequency indices and spatial location of current EEG and event-related potentials (ERP). Psychophysiological study of adults and children aimed at finding electrophysiological correlates of anxiety states and estimation of factors affecting their psychophysiological status negatively, proposed.

As is well known, color tone affects specifically the psychophysiological state of man. Of similar influence are as well the biological feedback (neurofeedback) sessions, aimed at altering the ratio of current EEG rhythmical components. Hence correction method of EEG potentials pattern through biological feedback by EEG including both sound and color stimuli, offered. Favorable effect is to be achieved due to two factors: specific color tone impact (computer chosen according to current EEG pattern); visual information on prevalence of EEG rhythms reflecting unfavorable psychophysiological states, so to teach to counteract them.

Neural mechanisms of neurofeedback have not been studied enough yet, however it's known that affective states are being controlled substantially by aminergic brain systems. To chose the best strategy of the method application, activity dynamics of particular aminergic neurons of brain stem in the experiments on cats with use of sound feedback by EEG proposed.

FRAMEWORK 6C

Research Interest: General Biomedical Sciences; Biophysics; Electroencephalography; Evoked and event-related potentials; Biological feedback by EEG; Neurotherapy; Aminergic neurons activity.

Expiry Date: 2007-03-01

:: Target Partner

Expertise: Scientific groups who are interested нейробиология тревожности, эффекты и механизмы нейрофидбэк. We seek partners who are open to the collaboration in study of the mechanism of

neurofeedback, organism response type on light of different wavelength.

Country: ЦШТЕРРЕИЧ, BELGIQUE-BELGIJ, BULGARIA, KYPROS/KIBRIS, CESKA REPUBLIKA, DEUTSCHLAND, DANMARK, EESTI, ESPACA, SUOMI/FINLAND, FRANCE, HELLAS, Hrvatska, MAGYARORSZAG, IRELAND, ISRAEL, ITALIA, LIETUVA, LUXEMBOURG (GRAND-DUCHЃ), LATVIJA, MALTA, NEDERLAND, POLSKA, PORTUGAL, ROMANIA, SVERIGE, SLOVENIJA, SLOVENSKA REPUBLIKA, TURKEY, UNITED KINGDOM

:: Organisation Details

Name: Palladin Institute of Biochemistry of the National Academy of Sciences of Ukraine

Department: Neurochemistry department

Address: L9, Leontovicha Str.

Kyiv 01601

UKRAINE

Type: Research

Number of Employees: 250 - 500

Details: identification of EEG pattern reflecting an anxiety state in adults and children of 7 to 15 years old; elaboration of the complex of color and sound feedback by EEG (neurofeedback) meant for anxiety states correction in adults and children; analysis of neuronal mechanisms underlying the neurofeedback effects with help of modeling on animals.

Turnover: 1.72 million euro

Keywords: anxiety neurobiology; electroencephalogram; event-related potentials; neurofeedback; effect of light of different wavelength; aminergic neurons.