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ABSTRACT BOOK

“BRAIN-MIND IN PROBABILISTIC HYPERSPACE”

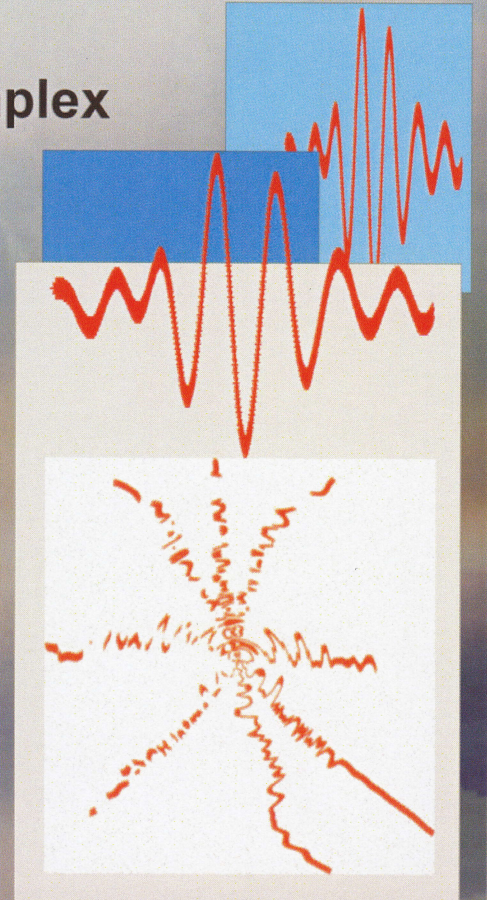
October 19-21, 2007

Istanbul Kültür University

**Brain Dynamics, Cognition and Complex
Systems Research Unit**

Faculty of Science and Letters

**Prof.Dr. Erol Başar
Chairman**



BRAIN-MIND IN PROBABILISTIC HYPERSAPCE **19-21 OCTOBER 2007**

PROGRAM OF THE SYMPOSIUM

October 19th 2007 First Day

15:30 -17:00 Registration

17:00-17:30 Opening ceremonies

I.PRELUDE

Chairman: John Polich, San Diego, USA

17:30 -18:15 Erol Başar, Istanbul, Turkey
Brain and Mind in a Cartesian System of 21st Century

18:15 -19:00 Scott Kelso, Florida, USA
On Understanding Mind

19:00- 22:00 Reception

October 20th 2007 Second Day

II. CELLULAR LEVEL

Chairman: Charles Bowden, San Antonio, USA

9:00-10:00. Menahem Segal, Rehovot, Israel
Determinants of neuronal network activity in cultured hippocampus

10:00-10:45: Stuart Hughes, Cardiff, UK
Cellular Alpha Rhythm Mechanisms and Their Possible Association with Perceptual Timing

10:45-11:15 Coffee Break

III. COGNITION

Chairman: Canan Başar-Eroğlu, Bremen, Germany

11:15-12:00 John Polich, San Diego, USA
Updating P300: An Integrative Theory of P3a and P3b

12:00-12:40 Christopher Moore, Boston, USA

Frequency-Dependent Cortical Dynamics and the Optimization of Perception

12:40-14:00 Lunch

Chairman: Scott Kelso, Florida, USA; Maria Corsi-Cabrera, Mexico City, Mexico

14:00-14:40 Wolfgang Klimesch, Salzburg, Austria

Memory Related EEG Oscillation and Top-Down Control

14:40-15:20 Jochen Kaiser, Frankfurt am Main, Germany

Cortical Oscillations and Auditory Memory

15:20 -15:50 Coffee Break

Chairman: Oğuz Tanrıdağ, Istanbul, Turkey; Christopher Moore, Boston, USA

15:50- 16:30 Maria Corsi-Cabrera, Mexico City, Mexico

REM Sleep Dreaming, a Frontal Disconnection State

16:30- 16:50 Bahar Güntekin, Istanbul, Turkey

Gender Differences in Event Related Oscillations during Visual Paradigms

16:50 -17:10 Christoph Herrmann, Magdeburg, Germany

Summary of the Day

October 21st 2007 Third Day

IV. COGNITIVE DISORDERS AND TRANSMITTERS

Chairman: Menahem Segal, Rehovot, Israel

9:00-10:00 Charles Bowden, San Antonio, USA

Bipolar Pathophysiology and Treatment Development

10:00-10:30 Ayşegül Özerdem, Izmir, Turkey

Hyperresponsive Oscillatory Delta Frequency to Visual Stimuli in Bipolar Disorder Normalizes With Chronic Valproate Use

10:30-11:00 Coffee Break

Chairman: Wolfgang Klimesch, Salzburg, Austria

11:00- 11:40 Christoph Herrmann, Magdeburg, Germany

Neural traits and states predict brain responses and behaviour

11:40-12:10 Görsev Yener, Izmir, Turkey
Delta/Theta Responses of Alzheimer Patients

12:10-13:30 Lunch

Chairman: Jochen Kaiser, Frankfurt am Main, Germany; Stuart Hughes, Cardiff, UK

13:30 - 14:10 Tamer Demiralp, Istanbul, Turkey

ERP and ERO Variability's Due To Genetic Polymorphisms of Glutamatergic and Gabaergic Neurotransmission

14:10-14:50 Canan Başar-Eroğlu, Bremen, Germany
Alpha and Theta Oscillations in Patients with Schizophrenia

14:50-15:10 Tamer Demiralp, Istanbul, Turkey
Summary of the Day

15:10-16:40 V. POSTER SESSION
and Coffee Break

16:40 -18:00 Concluding Panel

ERP and ERO Variabilities Due To Genetic Polymorphisms of Glutamatergic and Gabaergic Neurotransmission

T. Demiralp¹, Y. Keskin¹, C. Ogur², M.E. Erdal³, T. Ergenoglu³, M. Ergen¹, A. Uslu¹, O. Yilmaz¹, A. Selimbeyoglu¹, H. Beydagi³, A Ademoglu²

¹ Istanbul University, Istanbul Faculty of Medicine, Department of Physiology, Istanbul, Turkey

² Bogazici University, Institute of Biomedical Engineering, Istanbul, Turkey

³ Mersin University, Medical Faculty, Departments of Genetics and Physiology, Mersin, Turkey

ERPs as well as event related oscillations are heritable. Recent studies on gene polymorphisms related with specific components of neurotransmitter systems suggest that the inter-individual differences in brain functions within healthy and patient populations can depend on polymorphisms, because of their capability of constituting neurochemical and/or structural differences. Therefore, potential candidates for the genetic determinants of ERPs are genes encoding several most important neurotransmitter receptors. In this study, we aimed to identify associations of functional polymorphisms in dopaminergic, noradrenergic, GABAergic and glutamatergic neurotransmission systems on wave components of auditory and visual ERPs. Three cognitive paradigms were used to derive ERPs: (i) auditory novelty paradigm with 70% standard, 15% target and 15% novel sounds, (ii) visual go/nogo paradigm with 50% go and 50% nogo stimuli, and (iii) a CNV paradigm with a visual S1 and auditory S2 and 1.5 s interval between them. ERPs were derived from 30 channels according to the extended 10/20 system. To avoid confounding effects of gender, age, education, and IQ on ERPs, the study was carried out on 202 healthy male medical students. The differences of amplitudes and latencies of ERP wave components and the evoked and total powers of EROs obtained by means of wavelet transform among various genotypes of these polymorphisms were tested with ANOVA. The results showing significant effects of these polymorphisms on both ERP wave components and on evoked and induced oscillations in various frequency ranges will be reported in this presentation.