Event Related Potentials
As Biomarkers in the Clinical Assessment
Of Brain & Mind Health

4-day Introductory and Advanced workshops
with a world renowned neuroscientist Prof. Yury Kropotov
and ERPs expert Dr. Elena Labkovsky

This event will bring together two leading international experts in theory and practical clinical application of Event Related Potentials for understanding brain function and dysfunction in clinical practice of mental and neurological health. In recent years Event Related Potentials have emerged as one the most sensitive and reliable methods for measuring information processing in the brain and providing an important window into brain functioning. While covering the latest science and clinical application of Event Related Potentials the workshop will focus on practical skills of EEG Brain Diagnostics of the most common brain disorders: ADHD, Autism, Schizophrenia, Alzheimer Disease and Depression. Detailed analysis of cases will be based on the advanced methodology developed by Yury Kropotov at the Human Brain Institute of the Russian Academy of sciences and which has now been adopted by many clinicians and researches and successfully use all around the world including Australia. The original methodology incudes the software and normative brain database with QEEG and ERPs indexes. The application of this method for personalised pharmacotherapy, lie and malingering detection and Neurotherapy will be covered.

Outrigger Twin Towns Resort
Terraces Room, Gold Coast, Australia
14-17 March 2013

www.braininstitute.com.au
Workshop Program

13 March 2013         Time: 17:30pm QLD sharp
Venue: Terraces room, Outrigger Twin Towns Resort, Coolangatta-Tweed Heads

Registration and Reception

Keynote Presentation: Prof. Jury Kropotov

EEG Endophenotypes (Biomarkers) in psychiatry: Event Related Potentials. An integrative review

14 March 2013         Time: 8:00 am QLD sharp
Workshop Day 1

Introduction to ERPs method: the use of Event Related Potentials in Clinical Practice and Research

Lecturer: Elena Labkovsky, PhD (*read about Dr. Labkovsky in the appendix i)

The workshop will cover basics of ERP method, ERP origins, physiology, modalities, major ERP components, and principles of ERP protocol design. Emphasis will be placed on practical application of the ERP Method and demonstration of different ERP protocols in clinical applications. The topics will include:
1. Basics and Principles of the ERP method;
2. Design of ERP-based experiments and assessments;
3. Analysing ERP data and understanding ERP-based research and clinical reports.

The workshop will take place in the forms of lectures and demonstrations. As a result of completion of the workshop, participants will become familiar with the basics of the ERP method, major ERP components, and a variety of ERP protocols used in clinical ERP-based investigations.

14 March 2013         Time: 18:00pm QLD sharp

3-hour introductory workshop with Dr Elena Labkovsky
Malingering and Lie Detection through Event Related Potentials

**read about the workshop in the appendix ii

15 March 2013         Time: 8:00 am QLD
Workshop Day 2

Advanced Workshop with Prof. Jury Kropotov Day

ERPs as biomarkers of information flow within the brain

1. Neurophysiological mechanisms of information flow in the brain
2. Reflection of information flow in ERP waves
3. Independent Component Analysis and its application to ERPs for extraction correlate of specific psychological operations.
4. Test-retest reliability of ERP waves and ERP independent components
5. Defining cortical generators of ERP components – dipole approximation, LORETA, sLORETA.
6. Psychological paradigms for eliciting different ERP waves: N1, N170, P3a, P3b, P3 NOGO.
7. ERPs as indicator of electrode placement in tDCS.
Workshop Day 3

ERPs as Biomarkers of brain dysfunction

1. What is a biomarker?
2. ERPs as biomarkers in ADHD.
3. ERPs as biomarkers in schizophrenia
4. ERPs as biomarkers in TBI and stroke
5. ERPs for predicting the outcome of medication
6. ERPs as indicator of electrode placement in tDCS

Workshop Day 4

Neurotherapeutic methods of modulating brain dysfunction

1. Neurophysiological principles of Neurofeedback
2. Neurofeedback for peak performance (business, sport, education, aging)
3. Neurofeedback in some brain dysfunctions: ADHD, anxiety, PTSD
4. Neurophysiological mechanisms of transcranial Direct Current Stimulation (tDCS)
5. tDCS in treating brain dysfunctions: ADHD, stroke, depression
6. Other methods of Neurotherapy: transcranial magnetic stimulation (TMS), deep brain stimulation

NB! This course is "hands-on" and will include plenty of practicing of EEG recording, artifacting techniques and computing EEG spectra and ERPs. Participants will learn methods of:

Australian Psychological Association
Neurofeedback Interest Group Meeting

Friday 15 March 2013, 17:30 pm QLD,
Venue: Terraces Room, Outrigger Twin Towns Resort
Contact Michelle Aniftos for more information by email michelle@msmh.com.au

Read next page about presenters
About Prof. Jury Kropotov

Prof. Jury Kropotov is a world renowned Neuroscientist with 43 years of dedicated work in Brain science. His achievements are on par with other famous Russian Neuroscientists - I. Pavlov, V. Bechterev, Luria and Vigotsky.

Jury Kropotov, Ph.D. has earned three doctorates: in theoretical physics, in philosophy and in neurophysiology. From 1970 to 1990, he practiced at the psychiatric clinics of the Institute of Experimental Medicine and Institute of the Human Brain at the Russian Academy of Sciences in St. Petersburg. His work with psychiatric patients included electrode implantation for neurological research, evaluation, diagnosis and therapy. For this research, in 1985 he was awarded the country's highest scientific award - the USSR State Prize. His scientific interests are now focused on quantitative EEG and normative data bases, event-related potentials (ERPs), Neurotherapy (Neurofeedback, tDCS, DBS), QEEG/ERP markers of psychiatric and neurological disorders. In 2009, his book, entitled *Quantitative EEG: Event-Related Potentials and Neurotherapy* was published. Upon publication, he received the award for the year's most significant publication in the field of Neurofeedback from the Foundation for Neurofeedback and Applied Neuroscience. In 2009, he was also awarded the Copernicus Prize, an award presented by the Polish Neuropsychological Society. Dr. Kropotov has published more than 200 papers and authored 9 books. He is currently the Laboratory Director at the Institute of the Human Brain at the Russian Academy of Sciences (St. Petersburg) and a Professor at the Institute of Psychology at the Norwegian University for Science and Technology (Trondheim) as well as at the Krakow Academy in Poland.

About Dr. Elena Labkovsky

Elena Labkovsky, Ph.D. is a researcher and Licensed Clinical Psychologist, trained at St.Petersburg University (Russia) and Northwestern University (USA). She received her Master's and Doctoral degrees in Psychology from St. Petersburg State University, Russia. She continued her education and specialized in Neuropsychology at Moscow University, and completed post-doctorate training at Northwestern University, Institute of Neuroscience, Illinois, and USA.

Currently Dr. Labkovsky conducts her ERP-based studies (at Rosenfeld Lab, Institute of Neuroscience, Northwestern University) investigating psychophysiological markers of concealing information and malingering. She is also working as a clinical neuropsychologist in a private clinic conducting EEG/ERP-based assessment and neurofeedback/biofeedback interventions with children and adults.
ERP method can be used as an effective tool for identification of concealed information memory deficit and malingering. A growing body of research shows that people lie constantly, that deception is pervasive in everyday life. People lie for different reasons. The top reasons include avoiding punishment (as during criminal investigations) or obtaining financial compensation (in clinical settings). Malingering, for example, is one of the most common symptoms accompanying many psychological/neuropsychological conditions. In traumatic injury cases (like closed head injury) where monetary compensation can be claimed, the potential motivation to exaggerate memory deficit increases. Thus, it often becomes difficult to estimate actual memory deficit.

Literature shows that estimates of malingering reach up to 50% for malingered psychological symptoms. Are there ways to reliably identify concealing information? An ERP-based memory deficit tests reveal a high level of resistance to the effects of concealing information and malingering compared to behavioral tests of memory.

The workshop will demonstrate various ERP protocols for assessment of concealed information, memory deficit, and malingering. The participants will learn how to utilize such protocols in their clinical and forensic investigations, as well as in research. The workshop will also provide with a practical experience on calculating ERPs, analysing data, and creating reports.

**ERP-based studies demonstrate high effectiveness to detect concealed information with the hit rates ranging from 92 to 100%.

---

**References**


More information is available on the website www.braininstitute.com.au
Registration Form
For EEG Brain Diagnostics Workshops
With Prof. Jury Kropotov and Dr. Elena Labkovsky
March 14th-17th March 2013 - Tweed Heads, Gold Coast

Personal information

Please fill this in as detailed as possible.

Last name

First name

Title:

Organisation

Position:

Address

City

Postal Code:

Country

Telephone (work)

Mobile

Fax:

Email

How did you hear about our conference?

_________________________________________please specify:

Registration Fees

* For earlybird discount please register before 5pm 15/2/13

All Prices Include GST

□ Full Registration – 4 days earlybird *

4-day registration

AUD $

$1,280

□ Full Registration – 4 days non-earlybird

4-day registration

$1,425

□ Full Registration - Student Registration #

4-day registration

$997

□ Introduction to ERP’s - 1 Day Early Bird

14th March

$330

□ Introduction to ERP’s - 1 Day Student Registration #

14th March

$220

□ Advanced ERP Workshop - 3 Days – earlybird *

15th-17th March

$900

□ Lie and Malingering Detection with ERPs Workshop

14th March

$220

□ Lie and Malingering Detection student

14th March

$120

Total

Electronic funds transfer to

Brain Mind & Memory Institute Pty Ltd  BSB 06 2682 Account No: 1020 2505

□ VISA, □ Master Card

Name on card: ________________________________

□□□□ □□□□ □□□□ □□□□ Exp □□/□□

CCV □□□ signature ________________________________

Payment options

Cancellation Policy

Contacts

Electronic funds transfer to

Brain Mind & Memory Institute Pty Ltd  BSB 06 2682 Account No: 1020 2505

□ VISA, □ Master Card

Name on card: ________________________________

□□□□ □□□□ □□□□ □□□□ Exp □□/□□

CCV □□□ signature ________________________________

Provided written notice is received by February 15th, 2013 a full refund will be given less a 10% administration charge. There will be no refunds for cancellations or no-shows after 15th February, 2013. BMMI reserves the right to change or cancel the conference. If the conference is cancelled, you will be offered a refund.

Brain Mind & Memory Institute ACN 144946458

Rustam Yumash - info@mindmatters.com.au  Tel: +61 7 55992220  Fax: +61 7 55992221

Mob: 0413181147