ITC CONFERENCE GRANT
SCIENTIFIC REPORT

This report is submitted for approval by the grantee to the MC Chair.

Action number: CA16102
Conference title: 19th World Congress of Psychophysiology (IOP 2018)
Conference start and end date: 04/09/2018 to 08/09/2018
Conference attendance start and end date: 04/09/2018 to 08/09/2018
Grantee name: Silvana Markovska-Simoska

ACTIVITIES DURING YOUR ATTENDANCE AT THIS CONFERENCE:

(**max**.500 words)

At this Congress I have taken two active roles, since I was the proposer and moderator of the Symposium titled "Clinical application of QEEG and ERPs in neuropsychiatric disorders" and I was also part of the International scientific commitee at this Congress.

I have presented the research paper "Quantitative EEG and ERPs in children and adults with attention deficit hyperactivity disorder" at the Congress symposium number 21 on 7th September from 17:00 till 18:30 p.m. This 20 minutes talk was a great opportunity to present my work in front of a large audience (of around 150 people), have discussions with senior research colleagues and receive some good advice and comments. At the beginning of my oral presentation I have acknowledged the COST action TREATME and introduced the audience to its work and objectives.

The presented paper describes how QEEG parameters and independent components of ERPs have been applied in order to objectively discriminate ADHD population from norms. Their application is very important for predicting the right treatment. Than according to that: the medication, cognitive-behavioral psychotherapy, neurofeedback treatment or localizing the area for TMS or tDCS are prescribed. Thus, EEG and ERPs measures used as a diagnostic add-on in ADHD may be of interest in guiding a personalized medicine approach in particular regarding treatment outcomes.

During this symposium the brief overview and a number of examples of the use of neuromarkers in several disorders in psychiatry (such as schizophrenia and bipolar disorder, ADHD and conduct disorder and anorexia nervosa) in relation to the personalized medicine and diagnostic, prognostic as well as predictive issues were presented, described and discussed.

Also, another paper where I am co-author was presented at the symposia titled "Neurophysiological correlates of impulsive behavior in conduct disorder". This research compares the QEEG power spectra measures of Conduct disorder (CD) to a non-violent ADHD group and a group of healthy controls. Also, the aim of the study was to investigate possible deficits in executive functioning among juvenile offenders with CD. Thus, analysis of QEEG and ERPs might provide a new approach for additional objective diagnosis and ongoing interventions for improving behavioral and emotional control for juvenile offenders with CD in in order to try to reduce the risk of offending.

After presenting the papers there have been a couple of questions that raise the interest of the participants for the proposed neurophysiological and neuropsychological endophenotypes as predictors for best psychotherapy treatment options. Furthermore, there have been fruitful discussion about global and regional mainstream approaches for personalized psychotherapy patient approaches.

The attendance at the IOP 2018 Congress allowed me to establish collaboration with researchers in the field of psychophysiology and psychotherapy. In addition attendance to other symposia, keynote lectures and poster presentations gave me the insights into the latest work and trends in my field. I was also able to make connections that will possibly result in some collaborations in the future.

IMPACT ON YOUR RESEARCH AND FUTURE COLLABORATIONS (if applicable)

(**max**.500 words)

The field of psychiatry nowadays is moving toward the use of neuromarkers for the optimization of personalized treatment. This is a particular challenge for psychiatrists, because psychiatric disorders are diagnosed on the basis of description of the behavior but not on the basis of any objective tests such as use of neurophysiological data. In the last decade fMRI, QEEG and cognitive event related potentials (ERPs) have been used for imaging neuronal circuits involved in psychiatric diseases such as depression, schizophrenia and ADHD. These neuro/bio markers become new dimension in the diagnosis of psychiatric disorders.

According to all scientific facts it can be assumed that the future working space of the psychiatrists in 21 century will include equipment for analyzing dysfunctions in brain systems in connection with known psychiatric disorders. Associating the dysfunctions of the brain systems with described QEEG/ERPs markers will enable the psychiatrist to suggest an appropriate psychotherapy for correcting dysfunctions of the affected brain systems.

Since the research is advancing and several objective diagnostic parameters have been already suggested for specific disorders, it can be expected that reliable biological markers or endophenotypes of distinct disorders will be accepted for use in everyday clinical practice. The success of such development is crucial because it will enable the field of psychiatry to move forward into the era of modern and digital medicine.

By listening to the Keynote and Selected talks I was able to learn about other researchers' work and get an overview of research trends and recent knowledge in my field, as well as those topics loosely connected to the area of my expertise. It also inspired research ideas of my own and exposed me to different styles of presentation that will help me improve my own skills. Presenting in front of a large audience gave me a valuable experience and confidence for future conferences, also it made my work more visible to others and allowed me to meet and talk to researchers about possible postdoctoral collaborations and future topics research.

Thus, I think the participation at this 19th World Congress of Psychophysiology (IOP 2018) is valuable experience that can be transferred further on our next research TREAT ME steps, especially in developing and implementing better interventions for mental health and well-being using new scientific and technological advances.