

**PROGRAM
OF THE SEMINAR**

Wednesday, March 26th, 2014

15:00 – 15:30 **OPENING OF THE SEMINAR**

WELCOME ADDRESSES

Prof. Marek Darowski, Interim Director of the International Centre of Biocybernetics Polish Academy of Sciences (*Poland*)

Prof. Ewaryst Tkacz, Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*);
Silesian University of Technology, Faculty of Biomedical Engineering, Zabrze (*Poland*)

**15:30 – 17:30 Session I. BRUXISM - A NEW LOOK
AT AN OLD PHENOMENON I**

Chairman: Prof. Sandro Palla

15:30 – 16:00 **“Bruxism as a disease of civilization - the genesis of the project”**

Prof. Ewaryst Tkacz, Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*);
Silesian University of Technology, Faculty of Biomedical Engineering, Zabrze (*Poland*)

16:00 – 16:45 **“Wake-time bruxism – The great unknown”**

Prof. Sandro Palla, University of Zurich, Center of Dental & Oral Medicine, Zurich (*Switzerland*)

16:45 – 17:30 **“Influence of bruxism on a headache”**

Prof. Stefan Baron, Medical University of Silesia, Department of Chewing Organ Dysfunctions and Orthodontics, Zabrze (*Poland*)

Thursday, March 27th, 2014

9:15 – 13:00 **Session II. BRUXISM - A NEW LOOK
AT AN OLD PHENOMENON II**

Chairman: Prof. Sandro Palla

9:15 – 10:00 **“Mechanisms of jaw motor activation during sleep based
on human and animal studies”**

Prof. Takafumi Kato, Osaka University Graduate School of Dentistry, Department of Oral Anatomy and Neurobiology, Osaka University Medical Hospital, Sleep Medicine Center, Osaka (*Japan*)

- 10:00 – 10:45 **“Bruxism and occlusion”**
Prof. Stefan Baron, Medical University of Silesia, Department of Chewing Organ Dysfunctions and Orthodontics, Zabrze (*Poland*)
- 10:45 – 11:15 **“Physiological changes in occlusion during childhood and addescence”**
Prof. Agnieszka Pisulska-Otremba, Medical University of Silesia, Department of Chewing Organ Dysfunctions and Orthodontics, Zabrze (*Poland*)
- 11:15 – 11:30 *Coffee Break*
- 11:30 – 11:50 **“CGRP plasma level changes in patients with temporomandibular disorders, treated with occlusal splints: a randomized clinical trial”**
Dr. Aleksandra Nitecka-Buchta, Dr. Bohdan Marek,
Prof. Stefan Baron, Medical University of Silesia, Department of Chewing Organ Dysfunctions and Orthodontics, Zabrze (*Poland*)
- 11:50 – 13:00 ***Round Table discussion summarizing Session I and Session II***
- 13:00 – 14:00 *Lunch*
- 14:00 – 17:00 **Session III. A NEW DIAGNOSTIC APPROACHES**
Chairman: Prof. Stefan Baron
- 14:00 – 14:20 **“HRV analysis during sleep bruxism”**
Dr. Stanisław Pietraszek, Silesian University of Technology, Faculty of Automatic Control, Electronics and Computer Sciences, Institute of Electronics, Department of Medical Electronics, Gliwice (*Poland*)
- 14:20 – 14:40 **“Bruxism episodes detection based on hybrid methods”**
Dr. Paweł Kostka¹, Prof. Ewaryst Tkacz^{1,2}, ¹Silesian University of Technology, Faculty of Biomedical Engineering, Department of Biosensors and Biomedical Signals Processing, Zabrze (*Poland*),
²Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*)

- 14:40 – 15:00 **“Integration of multimodal image data for the purposes of supporting the diagnosis of the stomatognathic system”**
Dr. Agnieszka Tomaka¹, Dr. Michał Tarnawski²,
¹Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*),²Family Stomatology – Barbara i Michał Tarnawscy, Katowice (*Poland*),
- 15:00 – 15:20 **“Acquisition of mandible movement with a 3D scanner”**
Dr. Michał Tarnawski¹, Dr. Agnieszka Tomaka², ¹Family Stomatology – Barbara i Michał Tarnawscy, Katowice (*Poland*),
²Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*)
- 15:20 – 15:40 *Coffee break*
- 15:40 – 17:00 ***Round Table discussion summarizing Session III***

Friday, March 28th, 2014
--

- 9:20 – 13:00 Session IV. A NEW FRONTIERS OF BRUXISM ANALYSIS METHODOLOGY**
Chairman: Prof. Ewaryst Tkacz
- 9:20 – 10:00 **“Bruxism and genetics – a review of existing literature”**
Prof. Ivo Provaznik¹, Prof. Ewaryst Tkacz^{1,2,3},
¹Technical University of Brno, Faculty of Electrical Engineering, Institute of Biomedical Engineering, Brno (*Czech Republic*),
²Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*),³Silesian University of Technology, Faculty of Biomedical Engineering, Zabrze (*Poland*)
- 10:00 – 10:20 **“Techniques for processing and segmentation of spatial geometric models”**
Dr. Krzysztof Skabek, Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*)
- 10:20 – 10:40 **“Mathematical description of movement vs practical interpretations”**
Dr. Leszek Luchowski, Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*)

- 10:40 – 11:00 **“Assumptions for a software tool to support the diagnosis of the stomatognathic system: data collection, visualization of compound models and their motion”**
Dr. Dariusz Pojda, Dr. Przemysław Kowalski,
Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Gliwice (*Poland*)
- 11:00 – 11:30 *Coffee Break*
- 11:30 – 13:00 ***Round Table discussion; Summarizing of the Seminar***
- 13:00 – 14:00 *Lunch*