

# **PROGRAM OF THE SEMINAR**

**The event is co-financed from the financial sources of the Polish Academy of Sciences.**



# Monday, 1 July 2013

9:00 – 9:15

## OPENING OF THE SEMINAR

### WELCOME ADDRESSES

**Prof. Antoni Nowakowski** (*Poland*) - Chairman of the Seminar

**Prof. James B. Mercer** (*Norway*) - Chairman of the Seminar

**Prof. Jan M. Wójcicki** (*Poland*) - Director of the International Center of Biocybernetics

9:15 – 10:00

## PLENARY LECTURE

*Chairman: J. Mercer*

**Francis J. Ring**, University of South Wales, Pontypridd, (*United Kingdom*)

**“History of Thermology and Thermography: Pioneers and Progress”**

10:00 – 10:30

*Coffee break*

10:30 – 12:00

## Session I. “NDT” METHODS

*Chairmen: A. Seixas, B. Więcek*

10:30 – 11:15

**Daniel L. Balageas**<sup>1</sup>, **Jean-Michel Roche**<sup>2</sup>, **François-Henri Leroy**<sup>2</sup>, **Alexander M. Gorbach**<sup>3</sup>, <sup>1</sup>Institute of Mechanics and Engineering of Bordeaux, Bordeaux (*France*), <sup>2</sup>ONERA, Composite Systems and Materials Department, Châtillon, (*France*), <sup>3</sup>National Institute of Biomedical Infrared Imaging and Bioengineering, Bethesda (*USA*)

**“The Thermographic Signal Reconstruction method: a powerful tool for the enhancement of transient thermographic images**

11:15 – 12:00

**Antoni Nowakowski**, Gdansk University of Technology, Gdansk (*Poland*)

**“Active Dynamic Thermography and Thermal Tomography in medical diagnostics – advantages and limitations”**

12:00 - 12:45

**European Association of Thermology**

12:45 – 13:45

*Lunch break*

**13:45 – 15:45      Session II. CLINICAL APPLICATIONS I**

*Chairmen: F.J. Ring, Z. Drzazga*

13:45 – 14:30      **Piotr Murawski, Bolesław Kalicki, Anna Jung, Janusz Żuber,**  
Military Institute of Medicine, Warsaw (*Poland*)  
*“Usefulness of face thermograms for a sinus patient classification  
by use of linear predictive coding”*

14:30 – 15:15      **James B. Mercer<sup>1,2</sup>, S. Weum<sup>2,1</sup>, I. Høiland<sup>1</sup>, L. de Weerd<sup>2</sup>**  
<sup>1</sup>University of Tromsø, Tromsø (*Norway*), <sup>2</sup>University Hospital  
North Norway, Tromsø (*Norway*)  
*“Dynamic Infrared Thermography (DIRT) can be used for  
accurate mapping of perforators in breast reconstruction based on  
surgical results and Computed Tomography Angiography (CTA)  
finding”*

15:15 – 15:45      **Mateusz Moderhak,** Department of Biomedical Engineering WETI,  
Gdansk University of Technology, Gdansk (*Poland*)  
*“Problems in evaluation of breast reconstruction  
surgery procedures”*

15:45 – 16:15      *Coffee break*

**16:15 – 17:20      Session III. CLINICAL APPLICATIONS II**

*Chairmen: K. Ammer, A. Jung*

16:15 – 17:00      **Adérito Seixas<sup>1,2</sup>, J. Gabriel<sup>3</sup>, R. Vardasca<sup>3,4</sup>,** <sup>1</sup>Faculdade de  
Ciências da Saúde, Universidade Fernando Pessoa, Porto, (*Portugal*),  
<sup>2</sup>LABIOMEPE, Faculty of Sport, University of Porto, Porto,  
(*Portugal*), <sup>3</sup>LABIOMEPE, Faculty of Engineering, University  
of Porto, Porto, (*Portugal*), <sup>4</sup>Faculty of Advanced Technology,  
University of South Wales, Cardiff (*United Kingdom*)  
*“Thermographic evaluation in tendinopathies: a review  
and clinical study”*

17:00 – 17:45      **Mariusz Kaczmarek,** Gdansk University of Technology,  
Gdansk, (*Poland*)  
*“IR-thermal imaging in cardiosurgery”*

## Tuesday, 2 July 2013

### 9:00 – 11:15 **Session IV. THERMOGRAPHY IN MEDICINE I**

*Chairmen: D.L. Balageas, A. Nowakowski*

9:00 – 9:45 **Arcangelo Merla**, ITAB Institute for Advanced Biomedical Technologies, Department of Neuroscience and Imaging, Chieti (Italy)

*“Thermal imaging in neuropsychology”*

9:45 – 10:30 **Joanna Bauer**<sup>1</sup>, **Ewa Boerner**<sup>2</sup>, **Halina Podbielska**<sup>1,2</sup>,  
<sup>1</sup>Institute of Biomedical Engineering and Instrumentation, Wrocław University of Technology, Wrocław (Poland)  
<sup>2</sup>University School of Physical Education, Wrocław (Poland)

*“Assessment of physiotherapeutic procedures by means of thermovision”*

10:30 – 11:15 **Ricardo Vardasca**<sup>1,2</sup>, **E.F.J. Ring**<sup>2</sup>, **P. Plassmann**<sup>2</sup>, **C.D. Jones**<sup>2</sup>, **J. Gabriel**<sup>1</sup>, <sup>1</sup>Faculty of Engineering, University of Porto, Porto (Portugal), <sup>2</sup>Faculty of Advanced Technology, University of South Wales, Cardiff (United Kingdom)

*“A method to standardize medical thermal images of the human body based in templates”*

11:15 – 11:45 *Coffee break*

### 11:45 – 13:15 **Session V. THERMOGRAPHY IN PHYSICAL MEDICINE**

*Chairmen: A. Urakov, Z. Wróbel*

11:45 – 12:30 **Zofia Drzazga**<sup>1</sup>, **A. Cholewka**<sup>1</sup>, **W. Ciszek**<sup>1</sup>, **A. Stanek**<sup>2</sup>, **A. Sieroń**<sup>2</sup>, **M. Czuba**<sup>3</sup>, **S. Poprzecki**<sup>3</sup>, <sup>1</sup>University of Silesia, Katowice (Poland), <sup>2</sup>Medical University of Silesia, Katowice (Poland), <sup>3</sup>The Jerzy Kukuczka Academy of Physical Education, Katowice (Poland)

*“Thermal imaging application in physical medicine”*

12:30 – 13:15 **Manuel Sillero-Quintana**, **I. Fernández-Cuevas**, Faculty of Physical Activity and Sport Sciences – INEF, Madrid (Spain)

*“Infrared Thermography as a means to quantify the effects of the training load”*

13:15 – 14:15 *Lunch break*

## Wednesday, 3 July 2013

### 9:00 – 11:15      **Session VI. THERMOGRAPHY IN MEDICINE II**

*Chairmen: A. Merla, R. Vardasca*

9:00 – 9:45      **Kurt Ammer**<sup>1,2</sup>, <sup>1</sup>European Association of Thermology, Vienna (*Austria*), <sup>2</sup>Medical Imaging Research Unit, University of South Wales, Pontypridd (*United Kingdom*)

***“Temperature of the finger tips in subjects with suspected Reynaud’s phenomenon”***

9:45 – 10:30      **Alexander L. Urakov, N.A. Urakova, A.A. Kasatkin**  
Izhevsk State Medical Academy, Izhevsk (*Russia*)

***“Dynamics of temperature and color in the infrared image fingertips hand as indicator of the life and death of a person”***

10:30 – 11:15      **Mariusz Marzec, R. Koprowski, Zygmunt Wróbel**,  
Department of Computer Biomedical Systems, University of Silesia, Institute of Computer Science, Sosnowiec (*Poland*)

***“Methods of face localization in thermograms”***

11:15 – 11:45      *Coffee break*

### 11:45 – 13:15      **Session VII. TRANSIENT THERMOGRAPHY**

*Chairmen: M. Sillero, H. Podbielska*

11:45 – 12:30      **Bogusław Więcek**<sup>1</sup>, **Maria Strąkowska**<sup>1</sup>, **Gilbert De Mey**<sup>2</sup>,  
**Michał Strzelecki**<sup>1</sup>, <sup>1</sup>Technical University of Lodz, Lodz (*Poland*),  
<sup>2</sup>University of Gent, Gent (*Belgium*)

***“Transient thermography application for thermal modelling of a human skin”***

12:30 – 13:15      **Mariusz Kaczmarek, Mateusz Moderhak, Antoni Nowakowski**,  
Gdansk University of Technology, Gdansk (*Poland*)

***”ADT in mammography”***

13:15              **CLOSING REMARKS    Antoni Nowakowski**  
**James B. Mercer**

13:45 – 14:45      *Lunch break*