

PROGRAM OF THE 138th ICB SEMINAR
Advances in Membrane and Adsorber Technology
in Life Sciences

International Symposium in Honour of Prof. Jan Wójcicki

April 6-8, 2014

**International Centre of Biocybernetics and
Nałęcz Institut of Biocybernetics and Biomedical Engineering
Polish Academy of Sciences (IBBE PAS)
4 Trojdena Street, Warsaw, Poland**

Organization:

Prof. Dr. Thomas Groth, Martin-Luther University, Halle, Germany

Assoc. Prof. Dr. Piotr Ładyżyński, IBBE PAS, Warsaw, Poland

Prof. Dr. Jörg Vienken, Nephro-Solutions AG, Hamburg, Germany

Sunday, 6 April 2014

19:00 – 21:00 **GET TOGETHER**

Location: IBBE PAS, Exhibition hall

Monday, 7 April 2014

9:00 – 9:15 **OPENING OF THE SEMINAR**

Location: IBBE PAS, Lecture hall

WELCOME ADDRESS

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

- 9:15 – 11:00 **SESSION I. Basic Principles and Application of Membranes**
Location: IBBE PAS, Lecture Hall
- Chairmen: Prof. Dr. Thomas Groth
 Prof. Dr. Jörg Vienken
- 9:15 – 9:45 **Prof. Dr. Gerardo Catapano**, Department of Chemical & Materials Engineering,
 University of Calabria, Rende (*Italy*)
- Transport phenomena in membrane processes in life sciences: limitations
 and chances**
- 9:45 – 9:50 *Discussion*
- 9:50 – 10:20 **Assoc. Prof. Dr. Andrzej Chwojnowski**, Nałęcz Institute of Biocybernetics
 and Biomedical Engineering PAS, Warsaw (*Poland*)
- Selected examples of semipermeable membranes for biomedical biotechnical
 and analytical applications**
- 10:20 – 10:25 *Discussion*
- 10:25 – 10:55 **Dr. Frank Wiese**, Wiese Consultant, Wuppertal (*Germany*)
- Membranes for Gas Exchange used in Blood-Oxygenators and Bioreactors**
- 10:55 – 11:00 *Discussion*
- 11:00 – 11:30 *Coffee break*
- 11:30 – 13:15 **SESSION II. Basic Principles and Application of Membranes**
Location: IBBE PAS, Lecture Hall
- Chairmen: Assoc. Prof. Dr. Piotr Ładyżyński
 Dr. Frank Wiese
- 11:30 – 12:00 **Prof. Dr. Volker Abetz**, Institute for Polymer Research, Helmholtz Centre,
 Geesthacht (*Germany*)
- Development of isoporous membranes based on block copolymers**
- 12:00 – 12:05 *Discussion*
- 12:05 – 12:35 **Prof. Dr. Anna Trusek-Hołownia**, Department of Chemistry, Wrocław
 University of Technology (*Poland*)
- Polymeric drug carriers, a mass release control**
- 12:35 – 12:40 *Discussion*
- 12:40 – 13:10 **Prof. Dr. Peter Czermak**, Institute for Bioprocessing & Biotechnology,
 University of Giessen (*Germany*)
- Membrane supported virus separation from biological solutions**
- 13:10 – 13:15 *Discussion*

- 13:15 – 14:15 *Lunch break*
- 14:15 – 17:10 **SESSION III. Membranes for bioengineering**
Location: IBBE PAS, Lecture Hall
- Chairmen: Assoc Prof. Dr. Andrzej Chwojnowski
Prof. Dr. Peter Czermak
- 14:15 – 14:45 **Prof. Dr. Thomas Groth** Martin-Luther University, Halle (*Germany*)
Membrane requirements to host cells in bioreactors
- 14:45 – 14:50 *Discussion*
- 14:50 – 15:20 **Assoc. Prof. Dr. Piotr Ładyżyński**, Nałęcz Institute of Biocybernetics and Biomedical Engineering PAS, Warsaw (*Poland*)
Development of a model of the human vessel
- 15:20 – 15:25 *Discussion*
- 15:25 – 15:55 **Prof. Dr. Gerardo Catapano**, Department Chemical & Materials Engineering University of Calabria, Rende (*Italy*)
Membrane application in bioreactors
- 15:55 – 16:00 *Discussion*
- 16:00 – 16:30 **Dr. Marcin Grzeczkwicz**, Nałęcz Institute of Biocybernetics and Biomedical Engineering PAS, Warsaw (*Poland*)
Hydrogel-polyethersulfone microcapsules for cell storage
- 16:30 – 16:35 *Discussion*
- 16:35 – 17:05 **Dr. Sabrina Morelli**, Institute on Membrane Technology, National Research Council of Italy, ITM-CNR c/o University of Calabria, Rende (*Italy*)
Biohybrid membrane systems for neuronal tissue- engineered constructs
- 17:05 – 17:10 *Discussion*

Tuesday, 8 April 2014

- 9:00 – 10:45 **SESSION IV. Adsorption techniques and membranes in biotechnology**
Location: IBBE PAS, Lecture Hall
- Chairmen: Prof. Dr. Gerardo Catapano
Dr. Rudolf Kunze
- 9:00 – 9:30 **Prof. Dr. Jörg Vienken**, Nephro-Solutions AG, Hamburg (*Germany*)
Basic principles of adsorption in life sciences

- 9:30 – 9:35 *Discussion*
- 9:35 – 10:05 **Dr. Ahmed Sheriff**, Charité Hospital Berlin (*Germany*)
CRP-adsorber therapies: new ideas and concepts
- 10:05 – 10:10 *Discussion*
- 10:10 – 10:40 **Dr. Rudolf Kunze**, Science Office, BBB Biotechnologie Campus Berlin-Buch, Berlin (*Germany*)
New targets for clinical application of apheresis
- 10:40 – 10:45 *Discussion*
- 10:45 – 11:15 *Coffee break*
- 11:15 – 13:00 **SESSION V. Clinical applications of membranes and adsorbers**
Chairmen: Prof. Dr. Volker Abetz
Dr. Jens Hartmann
- 11:15 – 11:45 **Prof. Dr. Jörg Vienken**, Nephro-Solutions AG, Hamburg (*Germany*)
Extractables and clinical consequences of membrane application
- 11:45 – 11:50 *Discussion*
- 11:50 – 12:20 **Dr. Ewa Łukowska**, Nałęcz Institute of Biocybernetics and Biomedical Engineering PAS, Warsaw (*Poland*)
Keratinocytes culturing on biodegradable flat membranes for clinical applications
- 12:20 - 12:25 *Discussion*
- 12:25 – 12:55 **Dr. Tomasz Kobiela**, Institute of Biotechnology, Faculty of Chemistry Warsaw University of Technology (*Poland*)
The effect of membrane stiffness on skin cells
- 12:55 – 13:00 *Discussion*
- 13:00 – 14:00 *Lunch break*
- 14:00 – 16:20 **SESSION VI. Adsorption techniques and membranes in biotechnology**
Location: IBBE PAS, Lecture hall
Chairmen: Assoc. Prof. Dr. Dorota Lewińska
Dr. Tomasz Kobiela
- 14:00 – 14:30 **Dr. Maciej Płończak**, Department of Orthopaedics and Trauma, Mazovia Regional Hospital in Siedlce (*Poland*)
Cartilage chondrocytes implantation
- 14:30 – 14:35 *Discussion*

- 14:35 – 15:05 **Assoc. Prof. Dr. Ludomira Granicka**, Nałęcz Institute of Biocybernetics and Biomedical Engineering PAS, Warsaw (*Poland*)
Cells nano-encapsulation
- 15:05 – 15:10 *Discussion*
- 15:10 – 15:40 **Dr. Jens Hartmann**, Centre for Biomedical Technology Danube University, Krems (*Austria*)
Endotoxin adsorbers in extracorporeal blood purification: do they fulfill expectations?
- 15:40 – 15:45 *Discussion*
- 15:45 – 16:15 **Prof. Dr. Jarosław Czubak**, Public Clinical Hospital of Prof. Adam Gruca, Medical Centre of Postgraduate Education, Otwock (*Poland*)
The evaluation of polysulfone membrane in articular cartilage lesions treatment
- 16:15 – 16:20 *Discussion*
- 16:20 – 16:45 **SUMMARY OF THE SEMINAR**
Location: IBBE PAS, Lecture Hall
- Prof. Dr. Jörg Vienken**, Nephro-Solutions AG, Hamburg (*Germany*)
Assoc. Prof. Dr. Piotr Ładyżyński, Nałęcz Institute of Biocybernetics and Biomedical Engineering PAS, Warsaw (*Poland*)