

BIOART's SYMPOSIUM at the 2016 ESAO Congress

September 15th, 2016 - From 11:00 to 12:30

Nalecz Institute of Biocybernetics and Biomedical Engineering and International Centre of Biocybernetics,
Polish Academy of Sciences, 4 Trojdena Street, Warsaw, Poland.
Lecture Hall B

XLIII Annual Congress of the European Society for Artificial Organs

September 14-17, 2016 • Warsaw, POLAND • <http://esao2016.ibib.waw.pl>

TOWARDS EFFECTIVE, SEAMLESSLY INTEGRATED AND AFFORDABLE ARTIFICIAL ORGANS



SYMPOSIUM

**“BIOART Initial Training Network:
Training Network for Developing Innovative (bio)artificial Devices for Treatment of
Kidney and Liver Disease”**

PROGRAMME

- **“Introduction of the BIOART Initial Training Network.”**
Prof. D. Stamatialis, University of Twente – NL - (5min)
- **“Novel membranes for blood purification”**
Prof. D. Stamatialis, University of Twente – NL (15 min)
- **“Microencapsulation of hepatic spheroids for bioartificial liver application.”**
Prof. C. Legallais, University of Compiegne – FR - (15 min).
- **“The immunogenic response of conditionally immortalized renal proximal tubule epithelial cells for use in bioartificial kidney.”**
Mr. M. Mihajlovic, University of Utrecht – NL - (15 min).
- **“Mass and momentum transport in perfusion bioreactors for 3D liver cell cultures: A modeling approach.”**
Mr. S. Khakpour, Institute on Membrane Technology (ITM), National Research Council of Italy – IT (15 min)
- **“An innovative way of using pluripotent stem cells as source for functional human hepatocyte like cells: First step towards a liver model.”**
Dr. V. Strusi, Excorlab GmbH – GE (15min)
- **Questions & Answers** – Plenary discussion with all speakers (10 min).

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Organizer

Prof. Dr. D. Stamatialis – University of Twente – MIRA institute – Biomaterials Science & technology –
The Netherlands
BIOART's Project Coordinator

Context

Renal and liver diseases are global public health problems, with the incidences of end-stage renal disease (ESRD) and end-stage liver disease (ESLD) rising annually. Due to the lack of donor kidneys, most of ESRD patients depend on dialysis treatment using either an artificial kidney or the peritoneal membrane. Both modes are inefficient in removing uremic waste molecules and inadequately remove excess body fluids, potassium and phosphate contributing significantly to severe patient health problems, poor life quality and high mortality (15-20% per year).

The impairment of liver functions has also serious implications and it is responsible for high rates of patient morbidity and mortality. Presently, liver transplantation remains the treatment of choice for ESLD patients but it is limited by both the high costs and severe shortage of donor organs.

The BIOART Initial Training Network provides multidisciplinary training for a cohort of 16 young researchers to make a significant impact in the treatment of kidney and liver diseases.

BIOART ITN develops:

- **A prototype (bio)artificial kidney devices enabling prolonged/continuous removal of uremic toxins;**
- **Prototype bioreactor devices to ensure viability and functions of hepatocyte cells.**

BIOART brings together academic and private partners collaborating to provide young researchers with the research and entrepreneurial skills necessary to make a significant impact in the treatment of kidney and liver diseases, and enhance their career prospects in both the public and private sectors. The new generation of scientists trained by BIOART can address highly multi-disciplinary projects combining material science and engineering with biology and medicine.

During four years (2012-2016), the research and training programmes take advantage of the expertise, complementarities and networking potential of both full and associated partners, including strong intersectorial perspectives from the participation of three private organizations.

More information about ESAO at:

<http://esao2016.ibib.waw.pl/index.php?id=11>

**We are looking forward to welcoming you during our BIOART Symposium
to share with you our latest knowledge and know-how for
the treatment of kidney and liver diseases !**