Confirmed Invited Speakers

Gabriele ALTARE, XCMG Europe Research Center, Krefeld-Fichtenhain, Germany.

Michael BEHRINGER, Institute of Sport Sciences, Goethe University, Francfort-on-Main, Germany

Gennady BOCHAROV, Institute of Numerical Mathematics, Russian Academy of Sciences, Moscow, Russia.

Sergey BOGOMOLOV, Faculty of Computational Mathematics and Cybernetics, Lomonosov Moscow State University, Moscow, Russia.

Alexander CHURILOV, Faculty of Mathematics and Mechanics, Saint Petersburg State University, Saint Petersburg, Russia.

Johannes DIETRICH, Endocrinology, Medical Hospital I, Bergmannsheil University Hospital of Ruhr University, Bochum, Germany.

Dmitry FEDOSOV, Institute of Complex Systems (ICS-2), Research Center Juelich, Germany.

Theodor KALVERAM, Institute of Sport Science, Darmstadt University of Technology, Darmstadt, Germany.

Caspar KRAMPE, School of Economics, Chair of Business Management, in particular Marketing, Heinrich Heine University, Duesseldorf, Germany.

Jian LI, Institute for Medical Informatics, Biometry and Epidemiology (IBE), Ludwig-Maximilians University, Munich, Germany.

Tatyana MOISEEVA, Institute for Control Problems of Complex Systems of Russian Academy of Sciences (ICCS RAS), Samara, Russia.

Chuong NGO NGUYEN, Helmholtz Institute for Biomedical Engineering, Chair of Medical Information Technology, RWTH Aachen, Germany.

Olga PANINA, Department of Obstetrics and Gynaecology, Faculty of Fundamental Medicine, Lomonosov Moscow State University, Moscow, Russia.

Nicole RADDE, Institute of Systems Theory and Automatic Control (IST), Stuttgart University, Stuttgart, Germany.

Stefan WAGENPFEIL, Institute of Medical Biometry, Epidemiology and Medical Informatics, Saarland University Hospital, Homburg-on-Saar, Germany.

Igor YADYKIN, Institute of Control Science (IPU), Russian Academy of Sciences, Moscow, Russia.

Special Tutorial Lecture

Disorders of Multi-scale Control

12 December 2017

This tutorial will be given by Prof. **WANG Guanyu**, author of the monograph "*Analysis of Complex Diseases. A Mathematical Perspective*." (CRC, 2014).

Professor Wang obtained a PhD in engineering at Zhejiang University, Hangzhou, China, and also a Doctor of Medical Science degree (PhD) from University of Cologne, Germany. He was a post-doc at Health Science Center, University of Texas, Houston, and at Department of Bioengineering, Rice University. He was assistant professor of Pathology and Laboratory Medicine at the HSC in Houston, again, and later assistant professor of Physics at George Washington University. He is now associate professor of Biology at School of Biology, South China University of Science and Technology (SUSTC) in Shenzhen, China.

Contributed Papers

Invitation

A number of contributed papers can be included. Original contributions to any of the sessions are particularly welcome. The level should be exacting with a good exposition of biological context.

One-page abstracts (12-pt Times Roman, single space, minimal math notation, no figures, no tables, up to 3 references) of submissions will be reviewed for suitability and authors be informed by 25 Nov 2017 when received **before 18 Nov 2017**.

Each abstract must state full name (native and English transcription into Latin letters, where applicable) of presenting author with affiliation (department, institution), city, country, e-mail.

Send English-language submissions for evaluation to Jochen Mau <ismmau@hhu.de>.

Conference Proceedings

Pre-conference one-page English abstracts (12-pt Times Roman, single space) of invited and contributed talks will be included in the Conference Booklet, and also published electronically.

For *Transactions on Bio-automation / Verhandlungen zur Biokybernetik*, **expanded abstracts / full papers** of invited and contributed talks (up to 4 pages, including displayed maths equations, figures, tables, and references as appropriate) must be submitted **within 6 months**, in author's best academic language. If in English, there must be a separate one-page summary either in German, Russian or Chinese as a native language. Conversely, if in non-English native language, the separate one-page summary must be in English.

Design: Prof. Dr. J. Mau, Buschstr. 9, 47800 Krefeld,

Pre-Registration BIOKYBERNETIKA 2017

Title_____
Family Name_____
Given Names_____

Institution_____

City_____
Postal Address_____

Phone / Fax _____

E-Mail_____

Conference Package A (2 nights: 10-12 Dec'17) (lunch buffet, soft drinks during conference, coffee&tea, refreshments during breaks, conference booklet, single room w/ breakfast):
400,00 EURO / person

Conference Package B (1 night: 11-12 Dec'17) (package content A applies for 1 day)
320,00 EURO / person

One-Day Conference Ticket Only (lunch buffet, soft drinks during conference, coffee&tea, refreshments during breaks, conference booklet):
120,00 EURO / person / day

I also wish to take part (not included) in
- ▫ **Get-together 10 Dec 2017, 19:00-20:20**
- ▫ **Social Dinner 11 Dec 2017, 19:30-22:00**

Date: _____

City: _____

Signature:_____

E-Mail to: sarah.mulholland@melia.com
by 20 Nov 2017 - the latest! -
for booking, payment, package reservation details.

Background

What is the meaning of "Biokybernetik"? In a strict sense, it is the "systematics of control for *good cooperation* of 'functional ensembles' in human body". As such cooperation expresses in energy transfers between components on and between several functional levels, biokybernetik is at the basis of "multi-scale mathematical modelling of energy transfer dynamics in body system".

Biokybernetik (engl. **bio-automation**) combines bio-systems modeling, molecular bio-data methodologies and clinical characterizations for a holistic understanding of human body's functional and a person's operational management and control systems from an engineering perspective.

Patho-Biokybernetik is an approach to diagnose, understand and treat complex diseases as *disorders* of multi-scale control of functional “cross-talk” between ‘functional ensembles’ in the body.

Scope

The two Conferenes then jointly aim to address
- Behavioral Control in Human and in Machine,
- Physiological Controls in Human Body System,
- Genetic Controls in Body’s Cellular System
- Methodology of Modeling and Data Analysis,
- Disorders of Multi-scale Control
  - case-studies in complex diseases
  - concepts for mathematical modeling

Venue

Hotel TRYP Duesseldorf Krefeld, Europapark A1,
47807 Krefeld-Fichtenhain, Germany.
Phone +49-2151-836-0, Fax: 836-444
Event Manager: Ms. Sarah Mulholland
Phone: +49-2151-836-162
sarah.mulholland@melia.com

BIOKYBERNETIKA 2017

Call for Contributed Papers and Call for Registration

4th Annual “Arbeitstreffen” of German Initiative Biokybernetik

Patho-Biokybernetik - Disorders of MultiScale Control in Complex Diseases

Convenor: Jochen Mau
Heinrich Heine University Düsseldorf

and

2nd Russo-German Conference

MultiScale BioMathematics – Coherent Modeling of Human Body System

Convenors

Jochen Mau
Heinrich Heine University Düsseldorf

Sergey I. Mukhin
Lomonosov Moscow State University

11 - 12 December 2017
TRYP Duesseldorf Krefeld
Europapark A1,
Krefeld-Fichtenhain