

# Multi-scale Biology: From Molecules to Organisms

Asinger-Zentrum, Worringer Weg 1, Aachen; June 9, 2015

Integrating information obtained at many different levels and scales for improving human and animal health and for securing plant growth and yield is a major challenge in medicine and biology of today and will become even more important in the future. Particularly, the molecular function of individual effector molecules, their interaction with inhibitors and modulators, as well as their function in protein networks, cells, organs, organisms and crosstalk between organisms need to be understood and exploited.

We envision that an interdisciplinary approach involving biochemists, cell biologists, chemists, computer scientists, mathematicians, physicians, physicists, plant biologists and structural biologists from several faculties of RWTH Aachen University, the Joint Research Center for Computational Biomedicine and different departments of Forschungszentrum Jülich can help to understand such multi-scale systems. Common research questions and technologies are, e.g., structure analyses, molecular design and synthesis, modelling, simulation, different screening approaches and appropriate assays.

We cordially invite you to join the multi-disciplinary platform "Multi-scale Biology" and to take part in this colloquium with renowned colleagues from academia and industry.

*Carsten Bolm, Chair of Organic Chemistry II*

*Bernhard Lüscher, Chair of Biochemistry and Molecular Biology*

*Andreas Schuppert, Aachen Institute for Advanced Study in Computational Engineering Science (AICES)*

*Martin Zenke, Chair of Cell Biology*

*Brigitte Küppers, ERS-Forum*

## PROGRAMME

10:00-10:30	<i>Registration - Coffee</i>
10:30-10:45	<b>Rudolf Mathar</b> , Vice-Rector for Research and Structure RWTH Aachen University <i>Welcome and Opening</i>
10:45-11:15	<b>Rainer Fischer</b> , Fraunhofer IME Screeningport <i>From conventional to knowledge based drug discovery</i>
11:15-11:45	<b>Robert Klein</b> , Bayer CropScience AG, Frankfurt/M <i>Virtual screening in crop protection research</i>
11:45-12:15	<b>Bert Klebl</b> , Lead-Discovery-Center Dortmund <i>From hit to drug candidate - Identification &amp; optimization of small molecule ligands</i>
12:15-13:45	<i>Poster-Lunch</i>
13:45-14:15	<b>Joe Lewis</b> , EMBL Heidelberg <i>A decade of academic screening at EMBL: lessons learned and future perspectives</i>
14:15-14:45	<b>Henning Steinhagen</b> , Grüenthal GmbH, Aachen <i>Identification and optimization of novel lead structures</i>
14:45-15:15	<b>Johannes Zuber</b> , Institute of Molecular Pathology, Wien <i>Finding and probing leukemia drug targets using advanced shRNAmir technology</i>
15:15-15:30	<i>Closing</i>