



Modeling Tools for Pharmacokinetics and Systems Medicine
A SYSTEMS MEDICINE HANDS-ON TUTORIAL FOR MEDICAL DOCTORS AND
OTHER SCIENTIST
6 EACCME credits

Stuttgart, Germany
Sunday, May 18, 2014, 9 – 16:45



CASyM Coordinating Action Systems Medicine Europe

Prof. dr. Damjana Rozman
On behalf of the CASyM Consortium



Coordinating **A**ction **S**ystems **M**edicine
Implementation of Systems Medicine across Europe



What is CASyM?

CASyM

Coordinating **A**ction **S**ystems **M**edicine - Implementation of Systems Medicine across Europe

Launched by the EC under the FP7 programme

Preparing for the future research and innovation activities in systems medicine.

Administrative office (coordination)

Dr. Marc Kirschner, Project Management Jülich (PtJ), Forschungszentrum Jülich GmbH, Germany

Duration

4 years - 1 November 2012 – 30 October 2016

Budget

2.9 Mio €



Coordinating Action Systems Medicine
Implementation of Systems Medicine across Europe



What is CASyM?

CASyM will provide a European wide implementation strategy (road map) for Systems Medicine

- ▶ The road map is driven by clinical needs: It aims to identify areas where a systems approach will address clinical questions and solve clinical problems.

The vision of CASyM

Harnessing the advances in biology, computational biology and Systems Biology for the benefit of the patient.



Why Systems Medicine?

The post-genome wave combined with in-depth mathematical approaches changed the perspective of understanding human health and disease but this has not been sufficiently explored in medicine.

Complexity of human chronic multifactorial diseases, that combine with aging, urges to broaden the pool of researchers in the medical sciences that apply quantitative techniques and systems approaches.

New generations of medical doctors and researchers can fully accomplish such tasks, by being exposed to systems approaches as early as possible in their education or research paths.



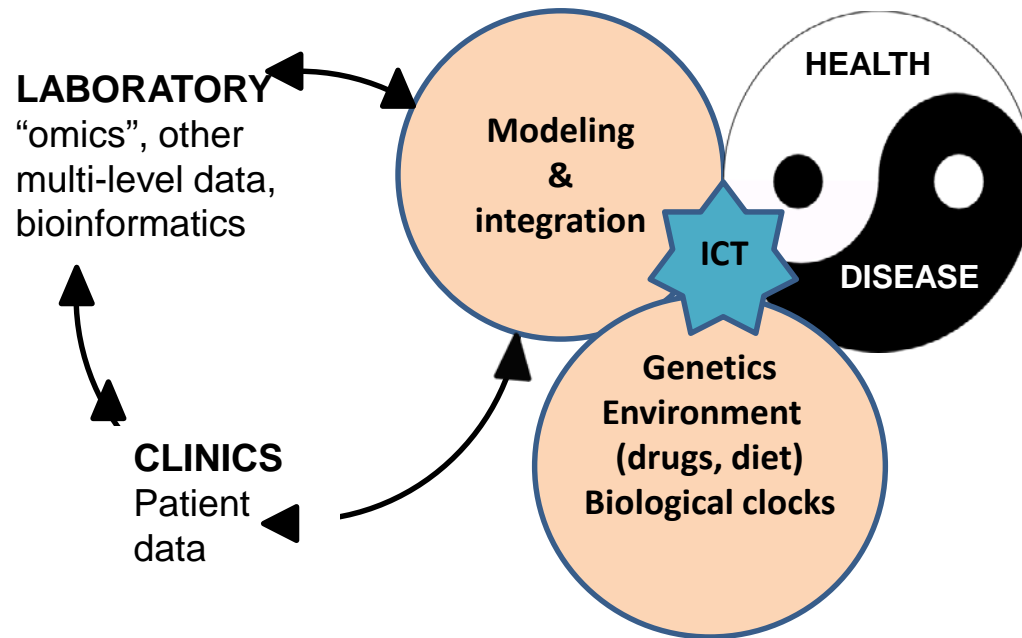
The systems approaches facilitate early intervention, anticipation and/or prevention, and aid in development of safer and more efficient personalized treatments.

CASyM training of the next generations will contribute towards reduction of chronic disease-related healthcare costs.



Paradigm shift: Towards a new generations of MDs and scientists that are trained within the three pillars of systems medicine: laboratory, computing, clinics

and apply this in daily practice to improve prognosis, diagnosis and treatment regimens of multifactorial chronic diseases.



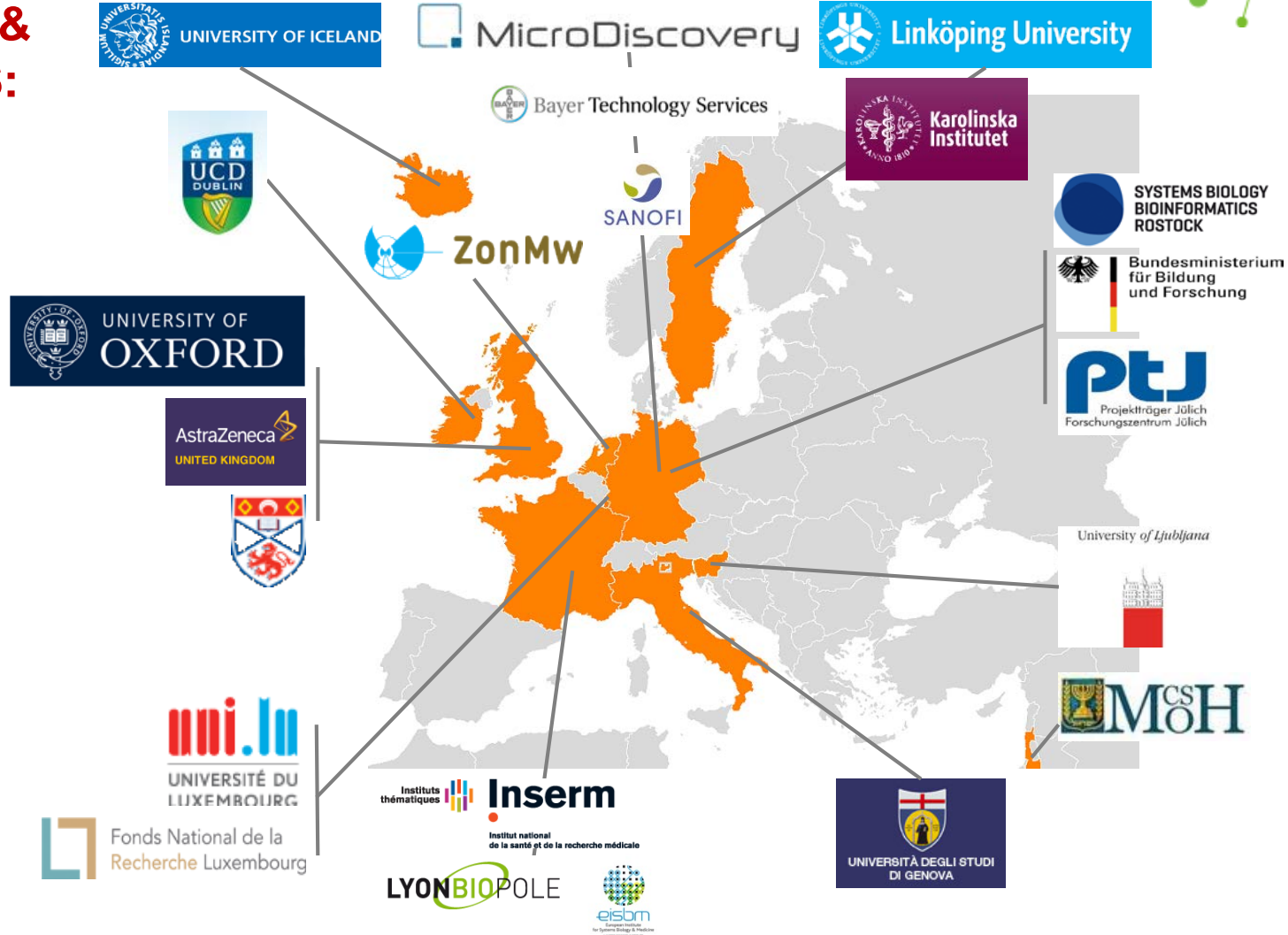


Coordinating Action Systems Medicine
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22 PARTNERS & 11 COUNTRIES:

- GERMANY
- UNITED KINGDOM
- FRANCE
- SWEDEN
- LUXEMBOURG
- NETHERLANDS
- SLOVENIA
- IRELAND
- ICELAND
- ISRAEL
- ITALY

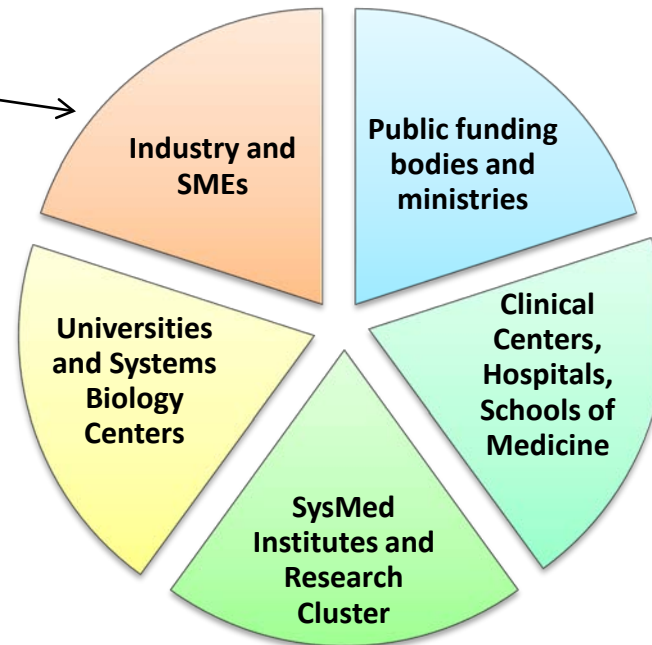




New “Systems” initiatives in Europe

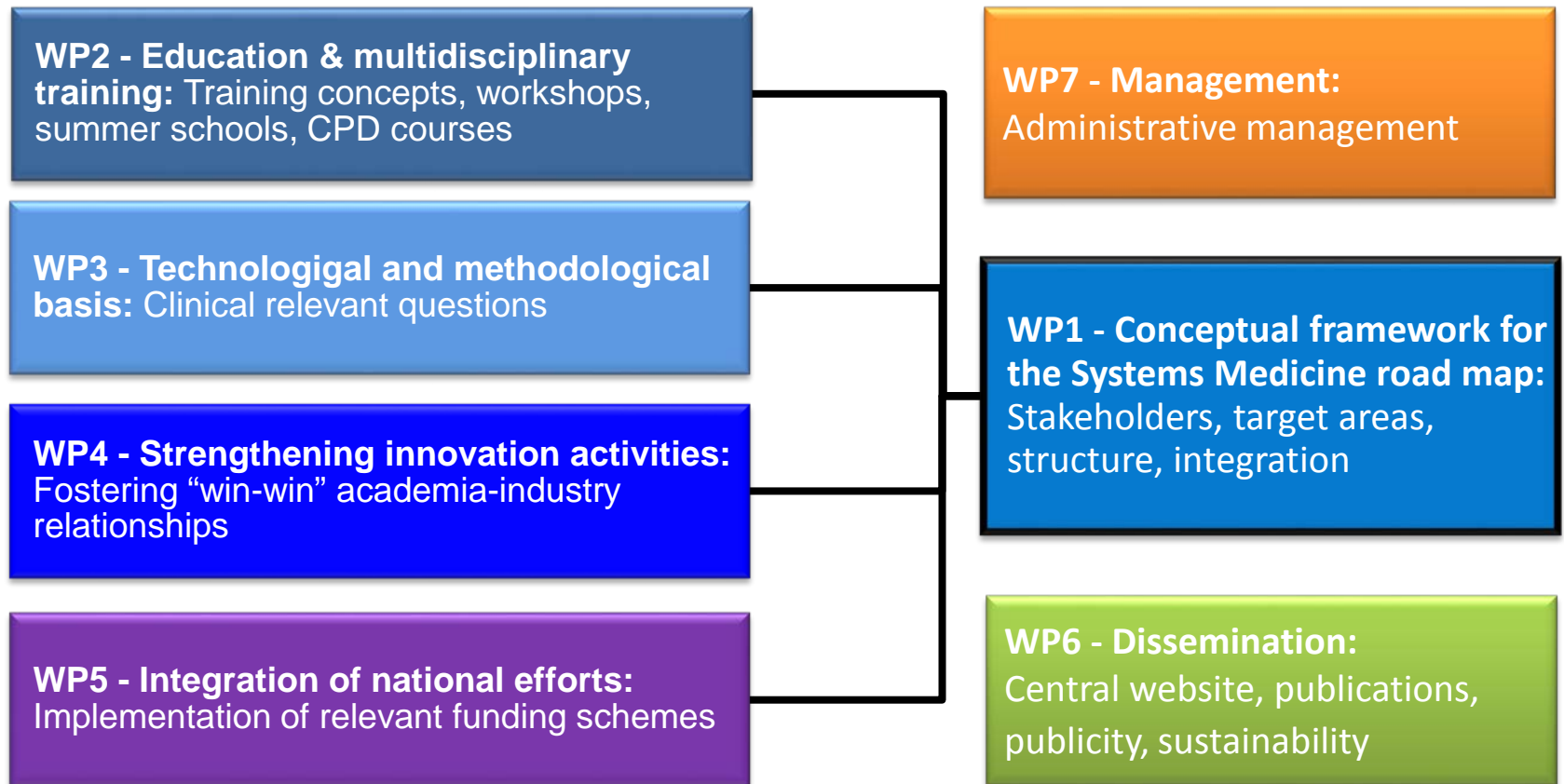


- **ERASysAPP**
- **CASyM**
- **ISBE**
- **And many others**



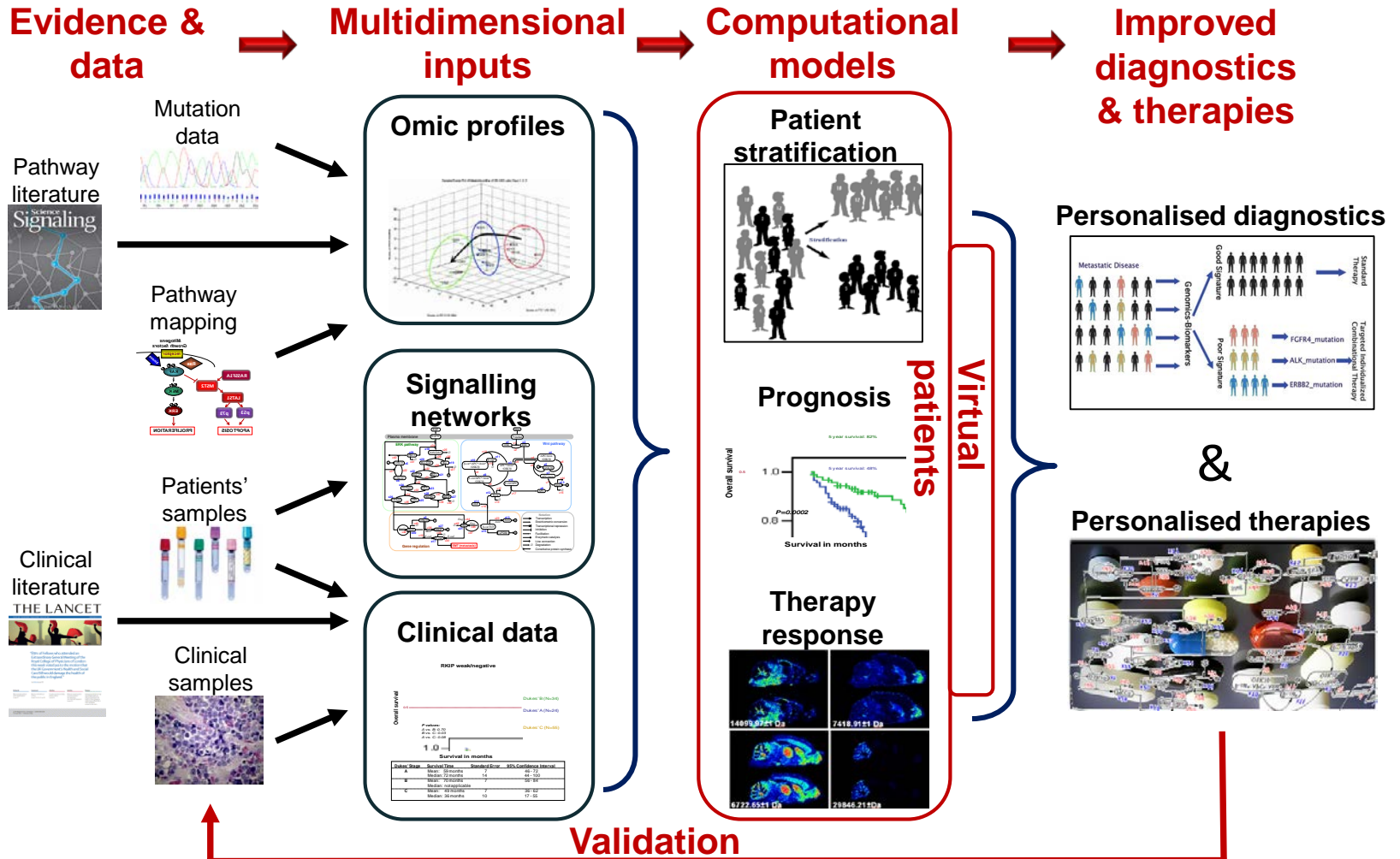


Work packages of CASyM





Challenge: Science can produce more patients data than ever before.
Vision: Systems medicine allows most efficient data usage





Vision:

Systems Medicine Approaches can provide the Heads-Up-Display that allows the clinician to navigate patients' data for making optimal decisions about diagnosis and therapy.





How will CASyM contribute to this vision?

- ▶ CASyM will develop a road map for the implementation of Systems Medicine





**Join CASyM and work with us on the
future of healthcare & medicine!**

www.casym.eu



Coordinating Action **Systems Medicine**
Implementation of Systems Medicine across Europe



Organization and support

The CASyM Steering Committee

Charles Auffray - European Institute for Systems Biology & Medicine - EISBM, France

Mikael Benson (Deputy Speaker) - Linköping University Hospital, Sweden

Rob Diemel - The Netherlands Organisation for Health Research and Development, The Netherlands

David Harrison - (Speaker) - University of St. Andrews, United Kingdom

Walter Kolch - University College Dublin, Ireland

Frank Laplace - Federal Ministry of Education and Research, Germany

Francis Lévi - Institut National de la Sante et de la Recherche Medicale, France

Damjana Rozman - (Deputy Speaker) - University of Ljubljana, Faculty of Medicine, Slovenia

Johannes Schuchhardt - MicroDiscovery GmbH, Germany

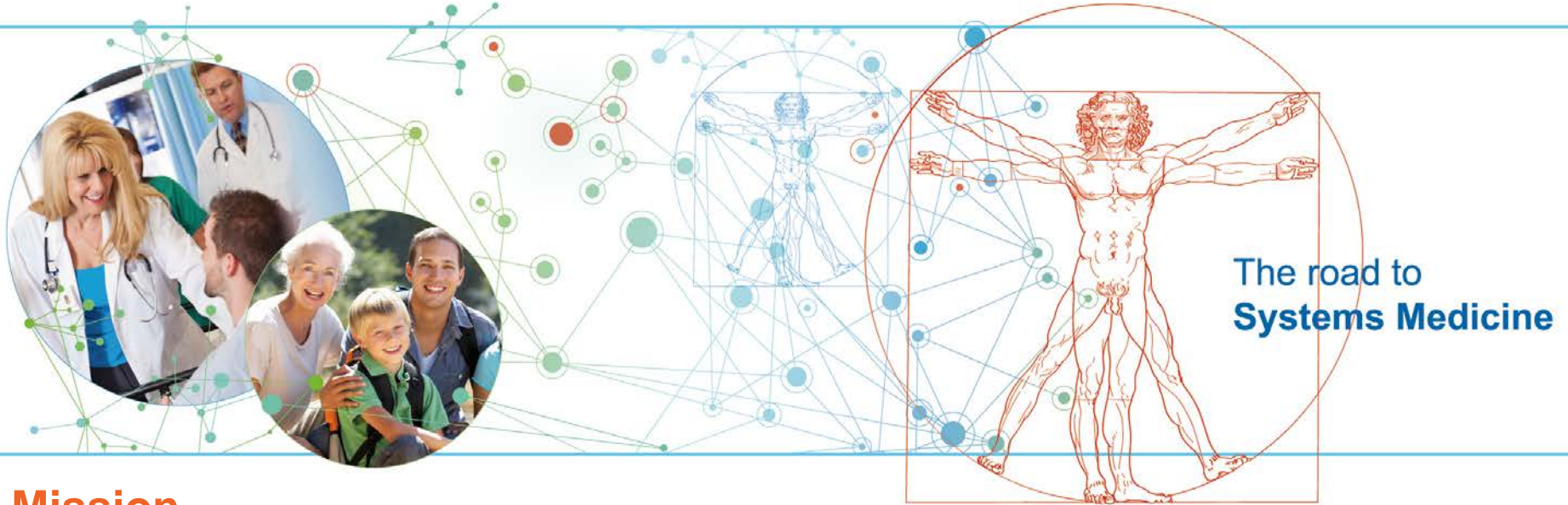
Olaf Wolkenhauer - Dept. of Systems Biology & Bioinformatics University of Rostock, Germany

Administrative office (Coordination)

Marc Kirschner – Forschungszentrum Jülich, Project Management Jülich (PtJ), Germany



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305033



Mission

Developing a strategic road map for the European wide implementation of Systems Medicine

Key features

- ▶ Integration
- ▶ Interaction
- ▶ Community building
- ▶ Clinical needs

Further information

www.casym.eu

Contact

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Join CASyM

and work with us!



CASyM: Modeling Tools for Pharmacokinetics and Systems Medicine

Tobias Kanacher (Leverkusen, Germany)

[An introduction to physiology-based pharmacokinetic \(PBPK\) modeling](#)

Hans V Westerhoff (Amsterdam, NL and Manchester, UK)

[Truly individualized systems medicine: a hands-on tutorial where participants will resolve paradoxes by using virtual twin/digital-me](#)

Francis Lévi (Villejuif, France), **Annabelle Ballesta** (New York, USA)

[Systems cancer chronotherapeutics for the personalization of cancer treatments](#)

Ales Belic, **Jure Acimovic**, **Damjana Rozman** (Ljubljana, Slovenia)

[Feedback mechanisms and systems medicine: Modelling cholesterol homeostasis for drug discovery](#)