FSU Jena

Bio Systems Analysis Group
Friedrich Schiller University Jena

JCB Jena Centre for Bioinformatics

Use computational approaches to explain complex *dynamical* phenomena found in living and organic systems, and apply this knowledge for engineering organic systems.

Systems Analysis and Semiotics of Mitotic Control

Organic Computing: Chemical Programming

Systems Theory of Microbial Communication

BioChemIT: Wet Artificial Neurons

Microbial Communities

Artificial Development / EvoDevo

Organic Systems

Understand

Emergence and evolution of novelty (qualitative dynamics of constructive systems)

Chemical organization theory

Self-evolution

Molecular Codes: Meaningful information in reaction systems

Emergence of social systems (Luhmann)

Engineer

Organization oriented chemical programing

Molecular computing

Wet artificial neurons

Random morphology robot

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Use computational approaches to explain complex *dynamical* phenomena found in living systems and apply this knowledge for engineering "organic" systems.

Organic Computing: Chemical Prgramming
(N. Matsumaru, DFG)

Systems Analysis of the Cell Cycle
(B. Ibrahim, DAAD)

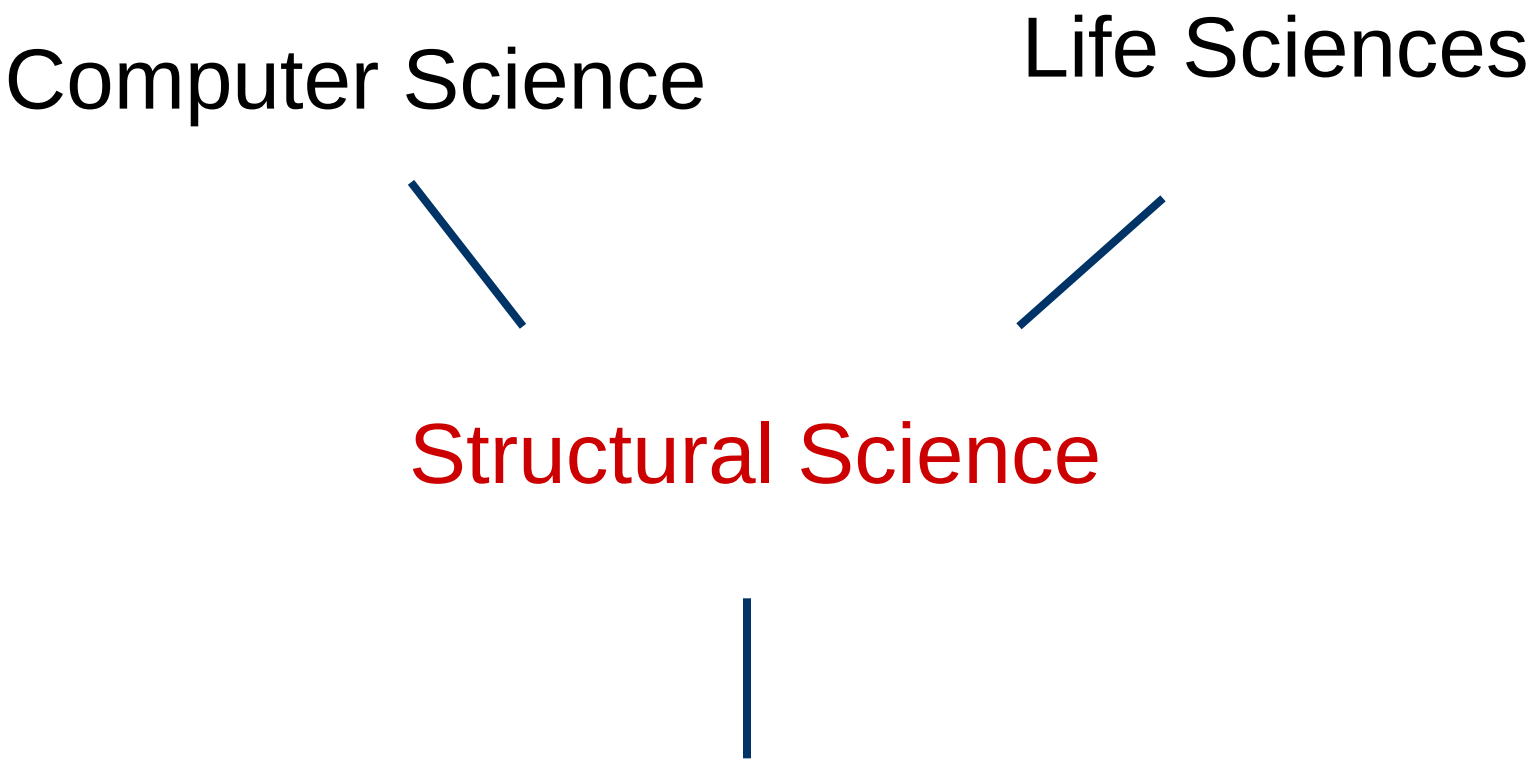
ESIGNET – Evolving Cell Signalling Networks *in silico*
(T. Hinze, T. Lenser, EU)

Semantics of Biological Models
(K. Knüpfer, RLS)

Chemical Network Theory and Simulation
(P. Speroni d.F., F. Cenler, BMBF)

Autonomous Experimentation
(Matsumaru, BMBF)

Peter Dittrich


Computer Science
Life Sciences
Structural Science
Social Sciences

Organic/Chemical Computing

Biological Networks Cell Cycle

Chemical Organization Theory

Sozionik Systems Theory
(Luhmann, Parsons)