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Faculty of Science,  
Technology  
and Communication

# Prof. Dr.-Ing. Thomas Sauter: Systems Biology - Systemic Properties from Molecular Interactions



Systems Biology is considered as one of the key scientific areas of the 21st century. Based on the enormous progress made in the last decades in deciphering the molecular complexity of life, systems biology aims at integrating these data and discovering how biological functions (or malfunction) arise from these molecular interactions. The systems biologist therefore combines experimental results with bioinformatics, mathematics and systems theory to integrate, describe, and analyze biological systems.

Within this lecture key concepts and methods of systems biology will be illustrated with simple examples.

Since October 2008 **Professor Thomas Sauter** is head of the Systems Biology group within the Life Sciences Research Unit at the University of Luxembourg. He teaches computational systems biology and biotechnology.

**Thomas Sauter** was born 1971 in Babenhausen (Schwaben), Germany. He studied Technical Biology at the University of Stuttgart and received his PhD in engineering (cybernetics & control) in 2003. He was scientific collaborator at the Max-Planck-Institute for Dynamics of Complex Technical Systems in Magdeburg, Germany and at the Thomas Jefferson University in Philadelphia, USA. From 2005 on he was group leader and lecturer at the Institute for System Dynamics, Stuttgart.

His research is focused on the area of computational (and experimental) systems biology. He applies mathematical modeling, data integration and system theoretical methods to analyze molecular signaling and metabolic networks, with main focus on signaling networks in cancer and inflammation. Experimental validation is performed in an own tissue culture lab and in close cooperation with biological partners.

Introduction by the dean Paul Heuschling.  
A drink will be served after the lecture.

→ **September 21st, 2010, at 18h**  
→ **University of Luxembourg**  
Campus Limpertsberg, Saal Tavenas  
102a, avenue Pasteur, L-2311 Luxembourg