



**SYSTEMS BIOLOGY  
BIOINFORMATICS  
ROSTOCK**

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## **Postdoctoral Research Associate, Systems Biology of Ageing (2 posts)**

Applications are invited from highly motivated individuals to work in an interdisciplinary environment, combining mathematical modeling with molecular cell biology.

The positions are available from early 2011 for a period of up to three years and are paid according to the German academic pay scale (E13 100%), which varies with age and experience. The research is conducted as part of a research network, involving six experimental groups in the Faculty of Medicine at the University of Rostock, two industrial partners and two external academic partners in Leipzig and Lübeck. Mitochondria and ROS production are key elements in the pathogenesis of degenerative diseases which ultimately determines the overall process of ageing. The experimental partners in the network will generate data from the subcellular level, in different experimental systems and for different organs. One of the posts will focus on mathematical modeling of ROS production, while the other focuses on ROS induced DNA damage and p53 signaling and inflammatory response. The modeling work is embedded in an iterative cycle of quantitative cell biology, mathematical modeling, parameter estimation, study of patterns in transient dynamics and sensitivity analysis, design of refined experiments and experimental validation of model predictions to understand ROS effects and induced downstream responses at the subcellular level.

The Department of Systems Biology & Bioinformatics provides a vibrant research environment, with extensive experience in interdisciplinary collaborations, covering a wide range of methodologies and technologies. The group moved in July 2009 into a new building and provides excellent facilities. The University of Rostock, founded in 1419, is one of the oldest in Europe. Rostock is located in the north-east of Germany with road and train connections to Berlin and Hamburg, as well short ferry links to Denmark, Sweden and other Baltic states. The area around Rostock is one of the most popular tourist regions in Germany.

Applications, including a full CV, copies of certificates and contact information of three referees should be send to Prof. Olaf Wolkenhauer in PDF format by Email: [peggy.sterling@uni-rostock.de](mailto:peggy.sterling@uni-rostock.de) (Subject: "ROSage"). Candidates should demonstrate their experience in applied mathematical modeling and interest in systems biology of ageing by providing a one page overview of their main achievements; providing pdfs of their most important publications, with a short description of the method(s) used and his/her contribution to the paper; and a one page description of goals and objectives related to the new post.