



## Systems Biology for Medical Applications Summer School

<http://www.sbi.uni-rostock.de/summerschool/index.html>

### Programme

The workshop is to provide lectures in the area of systems biology with medical applications, focussing on

- gene expression
- cell signalling
- transcriptional networks
- design of experiments
- mathematical modelling
- computational simulations

There will be lecture courses by leading scientists in the field. The summer school should provide an ideal training course for those interested or working in the areas of bioinformatics and systems biology. The course is interdisciplinary, providing a mixture of lectures given by experimentalists and theoreticians. The audience addressed is PhD students and postdoctoral researchers funded through EU supported projects related to molecular and cell biology, health sciences, bioinformatics and systems biology. No prior knowledge of systems biology is required. In discussion sessions the summer school is to explore the opportunities and hurdles for systems biology in medical applications, exploring research needs in understanding molecular mechanisms for the onset of diseases, drug target validation, and drug development. Participants are invited to present a poster about their current research activities.

Time	Monday 29.09.08	Tuesday 30.09.08	Wednesday 01.10.08	Thursday 02.10.08	Friday 03.10.08
9:30 – 10:15		<b>Opening session</b> <b>O.Wolkenhauer</b> <i>Why Systems Biology? grand challenges</i>	<b>J.Elif</b> <i>Probing single molecule processes in living bacteria</i>	<b>M.Girolami</b> <i>Parameter estimation</i>	
10:15 – 11:00		<b>S.Hohmann</b> <i>Yeast Systems Biology</i>	<b>R.Alves</b> <i>Network reconstruction &amp; design principles</i>	<b>K.Gerwert</b> <i>Protein function and interaction</i>	
11:00 – 11:30		<b>Coffee Break</b>	<b>Coffee Break</b>	<b>Coffee Break</b>	
11:30 – 12:00		<b>J.Hornberg</b> <i>Kinase drug discovery</i>	<b>E.Plathe</b> <i>Network reconstruction &amp; design principles</i>	<b>O.Wolkenhauer</b> <i>Results from the grand challenges exercise</i>	<b>Social event</b> <i>Barranco del Infierno</i>
12:00 – 12:30		<b>S.Omholt</b> <i>Explaining ECS shrinkage in the brain</i>	<b>D.Carling</b> <i>Metabolic diseases</i>	<b>N.Torres/J.Vera</b> <i>Power law models</i>	
12:30– 13:00		<b>M.Goksör</b> <i>Experimental methods for extracting single cell data</i>	<b>E.Mendoza</b> <i>Hybrid models</i>	<b>R.Eils</b> <i>Signal transduction &amp; regulation</i>	
13:00 – 14:30		<b>Lunch</b>	<b>Lunch</b>	<b>Lunch</b>	
14:30 – 15:15		<b>D.Fell</b> <i>Metabolic networks</i>	<b>T.Gross</b> <i>Generalized models</i>	<b>D.Drasdo</b> <i>Tumor growth modelling</i>	

<b>15:15 – 16:00</b>		<b>L.Wernisch</b> <i>Stochastic modelling for stem cells</i>	<b>P.Wellstead/M.Cloutier</b> <i>Brain energy metabolism</i>	End of summer school	
<b>16:00 – 18:00</b>	<b>Registration</b>		<b>Coffee &amp; Poster Session</b>		

The dinner and social event is sponsored by the Agencia Canaria de Investigacion, Innovacion y Sociedad de la Informacion (ACIISI).