Understanding the dynamics and the pathology of synapses by using computational models

Essential benefits of theoretical neuropsychiatry by using tools of systems science (systemic modeling, computer simulations)

FRIDAY, May 7th (13.00-20.30)
13.00: Felix TRETTER / Dan RUJESCU / Werner MEWES: Introduction
13.30: Heinz GRUNZE: The clinical side of bipolar disorders (moderator: Ulrich MANSMANN)
14.00: Elisabeth BINDER: Molecular mechanisms in mood and anxiety disorders – from genomics to epigenetics? (moderator: Werner MEWES)
14.30: Break
15.00: Sevilla DETERA-WADLEIGH: Molecular networks of genes for mood disorders and lithium response (moderator: Eduardo MENDOZA)
15.30: Rupert LANZENBERGER: Mechanisms of antidepressants and their dynamics (moderator: Felix TRETTER)
16.00: Break
16.30: Rainer RUPPRECHT: Modulation of ligand gated ion channels as a novel pharmacological principle (moderator: Oliver POGARELL)
17.00: Peter ACHERMANN: Modeling sleep regulation: from health to disease: affective disorders (moderator: John DITTAMI)
17.30: Break
18.00: Till ROENNEBERG: The molecular network of circadian oscillators (moderator: Hans LILJENSTRÖM)
18.30: Break
19.00: Denis NOBLE: The Aims of Systems Biology – from molecules to organs (moderator: Uwe AN DER HEIDEN)

SATURDAY, May 8th (09.00-14.00)
09.15: Hans WESTERHOFF: Perspectives of Neurosystemsbiology – molecular networks and neuropsychiatric diseases? (m.: Peter GEBICKE-HAERTER)
10.15: Chadi TOUMA: The dynamics of endocrine responses - the impact of stress hormones in affective disorders (moderator: Epaminondas ROSA)
10.45: Break
11.15: Eberhard VOIT: A computational model of the dopamine synapse (moderator: Till ROENNEBERG)
11.45: Janet BEST: A computational model of norepinephrenergic / serotonergic synapse - dynamics of transmission (moderator: Christoph TURCK)
12.15: Break
12.45: Christoph TURCK & François IRIS: Pathways of Proteomics in depression - data and modelling (moderator: Dan RUJESCU)