



VABILO NA PREGLOV KOLOKVIJ / INVITATION TO THE PREGL COLLOQUIUM

Prof. dr. Wilfried Weber

BIOSS centre for biological signaling studies
Albert Ludwigs University Freiburg, Germany

Petek / Friday, 21. 06. 2013, ob / at 13:00

**Velika predavalnica Kemijskega inštituta / Lecture Hall at the
National Institute of Chemistry; Hajdrihova 19, Ljubljana**

Synthetic biological tools to program mammalian cells

Synthetic biological switches and sensors enable controlling and analyzing cellular function in time and space. We will present an overview of synthetic biological tools to program mammalian cells either by controlling gene expression in time and space or by controlling the mechanical and biological properties of the extracellular matrix. For this aim we will elaborate on recently developed chemically and optically triggered switches to control gene expression in a spatiotemporal manner. Interconnecting mutually compatible switches resulted in the design of synthetic biological networks that enabled to functionally interconnect cells for programming complex gene expression patterns. We will conclude by presenting how the synthetic biological switches can also be applied for controlling the properties of the extracellular matrix for tissue engineering or drug delivery applications.

Vljudno vabljeni! / Kindly invited!