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# The 103<sup>rd</sup> iCeMS SEMINAR

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**Tue 27 Mar 2012  
16:30-17:30**

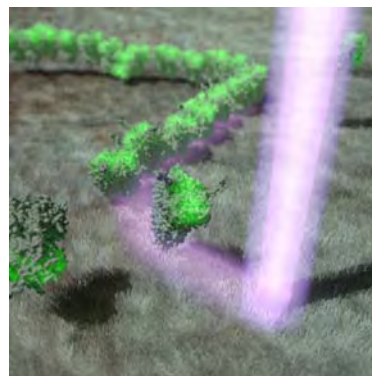
**In Situ Assembly of Macromolecular  
Complexes Triggered by Light  
– Applications in Cell-Material Sciences**

Lecturer: **Prof. Dr. Robert Tampé**

Institute of Biochemistry,  
Biocenter Goethe-University Frankfurt, Germany

Venue: 2nd floor Seminar Room (#A207) Main Building  
iCeMS Complex 1, Kyoto University

Chemical and synthetic biology aims for a perfect control of cellular networks in time and space by site-specific labeling, manipulation, and structured organization of protein complexes. This seminar will summarize recent developments using generic interaction pairs, which can be triggered by light from zero to nanomolar affinity. Multiplexed assembly of protein complexes is realized by iterative *in situ* activation, writing and binding processes via scanning laser microscopy. These light-triggered recognition processes allow for a spatiotemporal control of protein-protein interactions and cellular processes. Various approaches are discussed how to organize soluble and membrane protein complexes in nano and meso dimensions.



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**Hosted by:** iCeMS (Institute for Integrated Cell-Material Sciences), Kyoto University  
**Co-hosted by:** Center for Frontier Medicine, Global COE Program, Kyoto University

