

SFB  
1078



Protonation Dynamics  
in Protein Function

Mon, Feb. 12,  
2018

15:15 – 17:30

Freie Universität Berlin  
Physics Department  
Lecture Hall B

(Arnimallee 14, 14195 Berlin-Dahlem)

## ➤ Colloquium

➤ **Prof. Dr. Bettina Keller** – Freie Universität Berlin

***A pH-sensitive allosteric network modulates the  $Ca^{2+}$ -affinity in C-type lectin receptor Langerin***

Dr. Keller is an assistant professor (Jun.Prof.) in physical and theoretical chemistry at the Institute for Chemistry and Biochemistry of FU Berlin. Her expertise includes computational chemistry, theoretical biophysics and stochastic models. For more details visit the [Keller Group website](#).

➤ **Dr. Vitaly Sineshchekov** – Lomonosov Moscow State University, Russia

***Structural and functional heterogeneity of phytochrome A***

Complex signaling activity of phytochrome A (phyA) in the higher plants can be explained, at least partially, by its polymorphism. With the use of fluorescence spectroscopy, we have discovered two phyA species differing by serine phosphorylation at the N-terminus, by spectroscopic and photochemical parameters and by a number of phenomenological properties including content in plant tissues, light-lability, membrane (protein)-association and pattern of light-induced nucleocytoplasmic partitioning. They are distinguished as well by photophysiological functions with one of them mediating the very low fluence responses and the other, the high irradiance responses. Content and activity of the phyA pools are differentially regulated by red and far-red light and, in darkness, by phosphatase/kinase equilibrium and pH, what contributes to fine-tuning of the phytochrome system. Two native types of the lower plant fern *Adiantum capillus-veneris* phy1 similar to those of phyA were also detected suggesting that this heterogeneity may have arisen early in the evolution of the phytochrome system.

Coffee and tea are ready at 15:00 and during the break from 16:15 – 16:30.

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