

BIOLS SEMINAR SERIES

北京生命科学研究院精品讲座

报告时间：2014年7月1日（星期二）下午15:00

报告地点：中国科学院生物物理研究所9501会议室

报告题目：The SNARE's role in regulating vesicle fusion efficiency.

报告人：Christian Rosenmund. Professor of Neurobiology at the Charité University of Medicine, NeuroCure Cluster of Excellence, Berlin, Germany.

欢迎广大科研人员和研究生光临！



Prof. Christian Rosenmund received his Ph.D. in Physiology in 1993, from Vollum Institute, Portland Health Sciences University, USA, where he continued his postdoctoral training. After working in several famous institutes and universities, he became a Full Professor in Department of Molecular and Human Genetics and Department of Neuroscience, Baylor College of Medicine, Houston, USA. He was appointed as a Professor of Neurobiology at the Charité University of Medicine, NeuroCure Cluster of Excellence, Berlin, Germany, in 2009, and then he was honored as the Director and Speaker in 2012. Prof. Rosenmund is also the Reviewing Editor of eLIFE and Member of Faculty 1000.

Prof. Rosenmund's lab studies basic principles of synaptic transmission with a major focus on the process of neurotransmitter release. Electrical and optical recording techniques are frequently used to study function and plasticity of synapses in his lab. They use light and electron microscopy to analyze the structure of synapses and how these structures change during plastic events and under pathophysiological conditions. His group also utilize molecular and genetic techniques to connect individual synaptic proteins with individual steps of neurotransmitter release.

Key Publications:

- 2014. Ultrafast endocytosis at mouse hippocampal synapses. *Nature* 504(7479):242-247.
- 2013. Endocytosis gets in tune with action potential bursts. *Elife* Aug 20;2:e01234
- 2011. Interplay between VGLUT Isoforms and Endophilin A1 Regulates Neurotransmitter Release and Short-Term Plasticity. *Neuron* 69:1147-1159.
- 2010. Dysfunction in GABA signalling mediates autism-like stereotypies and Rett syndrome phenotypes. *Nature* 468(7321):263-269.
- 2010. Munc13 C2B domain is an activity-dependent Ca²⁺ regulator of synaptic exocytosis. *Nat Struct Mol Biol* 17(3):280-288.
- 2010. Binding of the complexin N terminus to the SNARE complex potentiates synaptic-vesicle fusogenicity. *Nat Struct Mol Biol* 17(5):568-575.
- 2009. Tilting the balance between facilitatory and inhibitory functions of mammalian and Drosophila Complexins orchestrates synaptic vesicle exocytosis. *Neuron* 64(3):367-380.
- 2004. N-glycosylation is essential for vesicular targeting of synaptotagmin 1. *Neuron* 41:85-99.
- 2004. Calmodulin and Munc13 form a Ca²⁺ sensor/effector complex that controls short-term synaptic plasticity. *Cell* 118(3):389-401.
- 2002. Phorbol ester and diacylglycerol-induced augmentation of transmitter release is mediated by Munc13s and not by PKC. *Cell* 108: 121-133.
- 2001. Synaptotagmin I functions as a calcium regulator of release probability. *Nature* 410:41-49.
- 2001. Complexins regulate a late step in Ca²⁺-dependent neurotransmitter release. *Cell* 104:71
- 2000. Identification of a vesicular glutamate transporter that defines a glutamatergic phenotype in neurons. *Nature* 407:189-194.
- 1999. Munc13-1 is essential for fusion competence of glutamatergic synaptic vesicles. *Nature* 400:457-461.

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