

Neuroscience Colloquium Winter Semester 2011/2012

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Long and Winding Journey of Neural Stem Cells

Neural stem cells persist from an early embryonic stage to the end of life of animals. During this long journey, stem cells change the mode of their proliferation and differentiation quite dramatically while retaining many common features. Although our understanding of the basic logic behind the control of stem cell fate at particular stages has been advanced remarkably in the past two decades since their discovery, we still do not know much about how stem cells change their behavior in a stage-dependent manner. In this talk, I will discuss our recent efforts to address this issue with special emphasis on the coupling of cell cycle and cell fate during embryogenesis and oligodendrocyte development in the early postnatal brain.

Roland Bainton

UCSF

Chemical Protection of the Brain: The Biology of CNS Drug Delivery

Biological systems have sophisticated protective mechanisms against a wide array of toxins and xenobiotics. In multicellular organisms, various protective mechanisms form an integrated, homeostatic control system that guides chemoprotection at levels of intra and intercellular transport, metabolism, and behavior. While these mechanisms protect organisms against toxins, they also limit therapeutic drug delivery. Our lab studies the chemical protection processes manifest by cellular systems like the blood brain barrier in the context of intact animals. Using genetic and chemical screens in flies and worms we are dissecting the complex physiology of chemoprotection and devising strategies for improved drug transport to protected spaces.

Location: BCCN lecture theater,
Bernstein Center for Computational Neuroscience
Humboldt-Universität zu Berlin
Philippstr. 13, Haus 6

Date: Friday, December 9, 3:00 p.m.

Hosts: Victor Tarabykin/Ingolf Blasig

The Neuroscience Colloquium is supported by:

SFB 665 "Developmental Disturbances in the Nervous System";

GRK 1123 "Cellular Mechanisms of Learning and Memory Consolidation in the Hippocampal Formation";

SFB-TRR 43 "The Brain as a Target of Inflammatory Processes";

Cluster of Excellence **NeuroCure**.

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