Mo 25. March 2019
Time: 16:30 h

Dept. of Chemistry and Biochemistry (DCB)
Freiestrasse 3, 3012 Bern, Room S481

Everybody is welcome

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Camilo Perez
is Head of research group at the Biozentrum Basel (CH).

This lecture is hosted by Prof. Dimitrios Fotiadis (IBMM) and is offered within the framework of the Seminars in Biochemistry (DCB).

NCCR TransCure Lecture in Biology
by Camilo Perez

Structure and mechanism of membrane proteins involved in lipid translocation

Bacterial infections represent a major public health problem of broad concern to countries and multiple sectors, augmented by increasing occurrence of strains resistant to antibacterial agents. Antimicrobial resistance is a growing threat for the effective treatment of infections and the achievements of modern medicine, e.g. joint replacements, organ transplants, cancer therapy, treatment of chronic diseases such as diabetes, asthma and rheumatoid arthritis. In order to develop new chemotherapeutic strategies to overcome infections, it is necessary to understand fundamental processes relevant for bacterial survival in detail.

The cell wall exerts important protective functions against host defenses and antibiotics; its biogenesis is a preferred target for the development of antibacterial agents, because it includes several essential pathways for virulence and survival. However, structural, mechanistic and fundamental biochemical aspects of many membrane proteins participating in cell wall biosynthesis are scarce. Lipid translocation across the bacterial plasma membrane is essential for cell wall biogenesis, however, how lipid translocation takes place and the atomic structure of proteins mediating these processes remain insufficiently understood.

My lab focuses on the structural and biochemical investigation of lipid translocases involved in the synthesis of cell wall components relevant for pathogenesis. Our research seeks to provide an understanding of the mechanisms of these proteins and describe potential modes of activity modulation and inhibition.

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