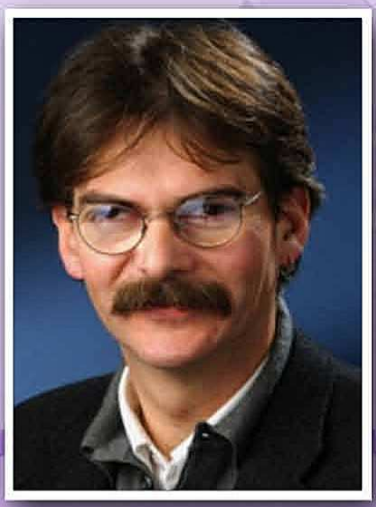
IMCB Invited Speaker



Speaker : **Prof. Uwe Strähle**
Director, Karlsruhe Institute of Technology (KIT),
Institute of Toxicology and Genetics
and University of Heidelberg, Germany

Date : 11 October 2012 (Thursday)

Time : 11:00AM - 12:00PM

Venue : Level 3, IMCB Seminar Room 3-46, Proteos, Biopolis

Host : A/Prof. Vladimir Korzh

Seminar :

In vivo imaging of molecular interactions at damaged sarcolemma

Muscle cells have a remarkable capability to repair plasma membrane lesions. Mutations in dysferlin (*dysf*) are known to elicit a progressive myopathy in humans, probably due to impaired sarcolemmal repair. We show that loss of Dysf and annexin A6 (Anxa6) function lead to myopathy in zebrafish. By use of high resolution imaging of myofibers in intact animals, we reveal sequential phases in sarcolemmal repair. Initially, membrane vesicles enriched in Dysf together with cytoplasmic Anxa6 form a tight patch at the lesion independently from one another. In the subsequent steps, annexin A2a (Anxa2a) followed by annexin A1a (Anxa1a) accumulate at the patch - the recruitment of these annexins depends on Dysf and Anxa6. Thus, sarcolemmal repair relies on the ordered assembly of a protein-membrane scaffold. Moreover, we provide several lines of evidence that the membrane for sarcolemmal repair is derived from a specialized plasma membrane compartment.

About the Speaker :

Uwe Strähle is Professor of Environmental Toxicology at Heidelberg University and Managing Director of KIT-ITG and the European Zebrafish Resource Centre. He is the spokesman of the BioInterfaces International Graduate School with around 60 PhD students. He furthermore co-coordinates the EU-IP ZF-HEALTH and is chair of the COST network EuFishBioMed uniting more than 300 zebrafish groups in Europe.

His own lab focuses on the development and maintenance of the nervous system and how environmental toxicants influence these processes. He has published more than 120 research articles in international peer reviewed journals. In addition to standard molecular biology instruments, his institute is equipped with modern sequencing and microscopy facilities, automated screening of zebrafish.

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