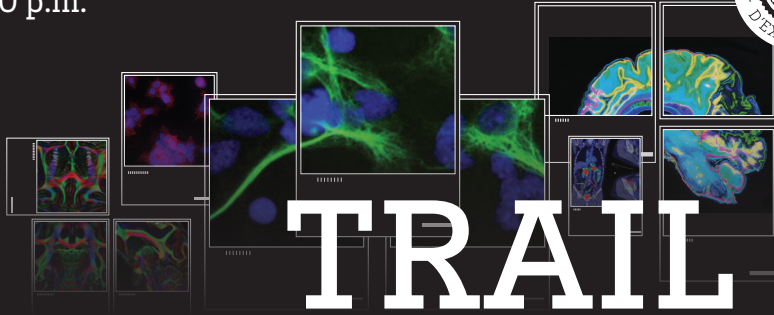


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TRAIL

Translational Research and
Advanced Imaging Laboratory

Conference

Neurovascular biology of capillary control



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Prof Martin LAURITZEN obtained his MD from University of Copenhagen, and completed his doctoral thesis with Niels A. Lassen and Christian Crone in Copenhagen. He is a medical specialist of clinical neurophysiology, senior consultant at the National Hospital in Copenhagen (Rigshospitalet), and professor at the University of Copenhagen. From 2009-2017 he served as Editor-in-chief for The Journal of Cerebral Blood Flow & Metabolism. He is currently the managing director of the Lundbeck Foundation Centre for research into Brain Barriers and Drug Delivery (www.ribbdd.dk).

"Neurovascular biology of capillary control"

Normal brain function depends on preserved supply of glucose and oxygen and even minor deficits in control of cerebral blood flow (CBF) lead to loss of brain function. Our understanding of the regulation of CBF has recently undergone a revolution due to the development of new concepts and new imaging techniques. In the past brain capillaries were viewed as tubes that passively conducted blood from the heart to the active nerve cells. However, recent data suggest that brain capillaries have control mechanisms for blood flow regulation, and novel microscopy techniques have now made it possible to examine the blood-brain barrier (BBB) in great detail in living animals as well. Together this work has the potential to advance our understanding of regulation of blood flow and BBB permeability at the level of small arterioles and capillaries. This will allow for cross-verification of hypotheses between the lab-bench and the clinic and help to identify key molecular mediators and new therapeutic targets.