PHYSIKALISCHES KOLLOQUIUM

des Fachbereichs Physik
der Johann Wolfgang Goethe-Universität Frankfurt

Mittwoch, den 17.01.2018, 16 Uhr c.t.
Großer Hörsaal, Raum _0.111,
Max-von-Laue-Str. 1

Prof. Dr. Eberhard Bodenschatz

Max-Planck-Institut für Dynamik und Selbstorganisation
Göttingen

"From Fluid Physics in the Brain to Building Synthetic Transport Networks"

Cerebrospinal fluid conveys many physiologically important signaling factors through the ventricular cavities of the brain. I shall report results on the transport of cerebrospinal fluid in the third ventricle of the mammalian brain and show that highly organized pattern of cilia modules exists, which collectively give rise to a network of fluid flows that allows for precise transport within this ventricle. These results suggest that ciliated epithelia can generate and maintain complex, spatiotemporally regulated flow networks that may have a physiological function. I shall then introduce our efforts on the bottom-up synthetic Biology approach to building synthetic cilia that we call synthonemes.

Die Dozenten der Physik

local host: Prof. Dr. Roser Valenti, valenti@th.physik.uni-frankfurt.de