



Berliner Physikalisches Kolloquium

im Magnus-Haus, Am Kupfergraben 7, 10117 Berlin

Eine gemeinsame Veranstaltung der Physikalischen Gesellschaft zu Berlin e. V.,
Regionalverband Berlin/Brandenburg der Deutschen Physikalischen Gesellschaft e. V.,
der Freien Universität Berlin, der Humboldt-Universität zu Berlin,
der Technischen Universität Berlin und der Universität Potsdam
– gefördert durch die Wilhelm und Else Heraeus-Stiftung –

Am Donnerstag, dem **2. Juni 2022**, um **18:30 Uhr**

spricht

Prof. Dr. Stephan Grill

**Max-Planck-Institut für molekulare Zellbiologie und Genetik
und Institut für Theoretische Physik, Technische Universität
Dresden**

über das Thema

„Physics of morphogenesis“

Moderation: Benjamin Lindner, Bernstein Zentrum für Computational Neuroscience Berlin und Humboldt-Universität zu Berlin

One of the most remarkable examples of self-organized structure formation is the development of a complex organism from a single fertilized egg. With the identification of many molecules that participate in this process, attention has now turned to capturing the physical principles that govern the emergence of biological form. What are the physical laws that govern the dynamics and the formation of structure in living matter? Much of the force generation that drives morphogenesis stems from the actomyosin cortical layer inside cells, which endows the surface of the cell with the ability to generate active forces and stresses that can drive reshaping. We combine theory and experiment and investigate how the actomyosin cell cortex self contracts, reshapes and deforms, and how these physical activities couple to regulatory biochemical pathways to give rise to the emergence of shape in living systems.