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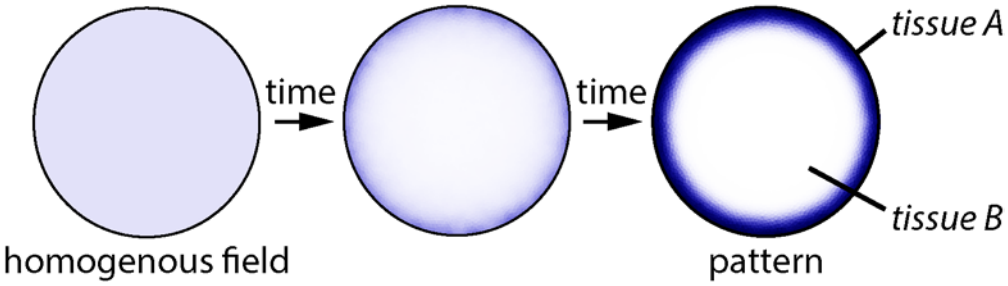
Einladung

zum
Physikalischen Kolloquium
Montag, 11.06.2018
16:15 Uhr in N24/H13

Dr. Patrick Müller
Friedrich-Miescher-Laboratorium
Max-Planck-Gesellschaft
Tübingen

"Biophysics of vertebrate development"

How does an initially homogenous population of cells self-organize to form patterned embryos and tissues? The influential reaction-diffusion model postulates that patterns emerge under the influence of poorly diffusive activators and highly diffusive inhibitors. We have found biophysical evidence demonstrating differential diffusivity of activators and inhibitors during early vertebrate development, and we focus on three major questions to understand how such reaction-diffusion systems transform a uniform field of cells into an embryo: First, how is the differential diffusivity of activators and inhibitors achieved? Second, how do reaction-diffusion systems ensure robust pattern formation? Third, how do reaction-diffusion systems adapt to tissue size? I will present our recent quantitative experiments and mathematical modeling using zebrafish and mouse embryonic stem cells as model systems to address these questions.



Ab 16.00 Uhr Kaffee, Tee und Kekse vor dem Hörsaal H13
Organisation: **Prof. Dr. F. Jelezko, Tel. 23750**
Host: **Prof. Dr. C. Gebhardt, Tel. 23364, off.: 23051**