Faculty of Biology
Keynote Lecture

JOHANNES GUTENBERG UNIVERSITÄT MAINZ

JG|U

Invitation to the Keynote Lecture Faculty of Biology

Prof. Dr. P. Robin Hiesinger

Free University of Berlin

Genomic Information, Self-Organization and the Brain

Abstract:
The genome does not describe the brain, it contains information to grow the brain. The genetically encoded growth process has surprising features: it is non-deterministic, flexible and robust to perturbation. Yet, adult neural circuitry is precise enough to ensure function. Moreover, there is no fundamental limit to how much information the growth process can encode in a neural network – prior to any learning. Self-organization is key to these features of genetically encoded brain development. Individual neurons need to fend for themselves and make local choices. This seminar will explore the question how an individual neuron decides when and where to make a synapse in the living Drosophila brain. Our findings highlight that pattern formation during growth and the kinetics of live neuronal interactions restrict synapse formation and partner choice for neurons that are not otherwise prevented from making incorrect synapses in this system. The seminar will explore the self-organized neuronal strategies leading to precise, flexible and robust outcomes in brain wiring.

Thursday, 07 March 2024, 2-4 pm

Host: Prof. Dr. Carsten Duch

The keynote lecture will be presented at the
Biozentrum 1, HS BZ1, 00.187, Hanns-Dieter-Hüsch-Weg 15, Ground Floor

Please note! Would you like to receive invitations to future lectures? Your registration is required!
Please register for the talks-sympalist at: https://lists.uni-mainz.de/sympa/info/talks_fb10