



Tuesday
15.05.2018
11:00 s.t.



Dr. Mario de Bono

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Discovering molecular nuts and bolts in the nervous system

We aim to discover molecular mechanisms that underpin neuron and circuit properties. As entry points we identify *C. elegans* mutants unable to adopt particular behavioral states. Forward genetics is a potent tool to discover biological mechanisms, but is limited by the laborious genetic mapping associated with the approach. We show that bioinformatics alone can predict phenotype-causing mutations in large collections of sequenced mutants. From >500 mutants defective in *C. elegans* group feeding behavior, we identify, thus far, 43 genes promoting this behavior. The proteins these genes encode define several molecular machines. I will describe some of our discoveries. Unexpectedly, we find that the pro-inflammatory cytokine interleukin 17 can act on neurons to change circuit gain. We identify evolutionarily conserved complexes that act at the endoplasmic reticulum to control biogenesis of ion channels and GPCRs. Using biochemistry we are probing the functions of these complexes in mammalian cells.

Host: Henrik Bringmann



Large Seminar Room, Administration Building
Max Planck Institute for Biophysical Chemistry, Am Fassberg 11, 37079 Göttingen