Neuroscience Colloquium

Winter-Semester 2019/2020

Lectures are held Thursdays, 5 p.m.
Venue: Paul-Ehrlich Lecturehall, Virchowweg 4, next to CCO

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Evolution and networks of gene regulatory factors in the human brain

Humans differ from other primate species in many phenotypes, among them in their larger brain, cognition and behavior. The molecular basis underlying these differences is not well known yet, however, it is clear that many genes determine them. Hence, to study the evolution of the brain and cognition, we are using comparative network approaches, focusing on the role of gene regulatory factors, such as transcription factors and non-coding RNAs. Using transcriptome data from pre-frontal cortex samples of humans, chimpanzees, and rhesus macaques we revealed an overall increase in network connectivity on the human lineage and that several transcription factors that are known to be involved in brain development or cognitive disorders have turned into hubs specifically in the human networks. We also discovered, that some non-coding RNAs have evolved human specific structures, which might underlie functional changes related to brain functions and diseases. In my talk, I will present our scientific results as well as the tools and methods we developed, which are useful for studying expression patterns, networks, and molecular changes in coding and non-coding genes.

Location: Paul Ehrlich-Hörsaal,
Charité – Universitätsmedizin Berlin, Campus Mitte
Virchowweg 4, next to CCO

Date: Thursday, **October 24th, 5 p.m.**

Host: Constance Scharff, Jana Petri

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DZNE e.V. German Center for Neurodegenerative Diseases;
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