From the Idea to a Paper: Designing, Executing and Publishing Research in Systems Neuroscience

Grinevich Department – ZI Mannheim

This course uses Ishiyama & Brecht (2016, Science, doi:10.1126/science.aah5114) as a case study to trace the entire research process step by step, from the generation of an initial idea to publication and public dissemination. Beginning with problem formulation and hypothesis development, the course examines experimental strategy and methodological decision-making, followed by the design principles of in vivo recording systems, hardware construction, and signal synchronization. It then moves from low-level analyses of behavior and neural activity to high-level analyses including statistical visualization, while outlining approaches to data management. In the latter part of the course, we discuss principles of figure design, narrative construction, presentation of novelty, the process from submission to peer review, and finally the public communication and outreach of research findings.

- Day 1 (2.5 h): Idea, experimental strategy, and experimental methodology
- Day 2 (3 h): Data analysis, data management, and code management
- Day 3 (2.5 h): Graphic design, manuscript, and outreach

Participants: open

Time: October - November

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