

Monday, October 07, 2024, 15:00 hrs Stephanstrasse 1A Lecture Hall, 1st and 2nd Floor and Zoom https://eu02web.zoom-x.de/j/63720434149

## **Open Science Initiative**

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## Rethinking Scientific Workflow

A scientific result is reliable when it can be repeated on the same and new samples. Unfortunately, it is possible for reliable results to also be false. If the measurements or analysis are not logically connected to a scientific theory, a reliable result is only reliably misleading. At the same time, unreliable results can be true—errors in design and analysis can ruin legitimate investigations. At the intersection of these concerns is scientific workflow, how we define, integrate, and report the scientific and statistical elements of a research project. I outline the problem, provide examples, and nominate ways for the Max Planck Society to incentivize rigor and reason in research.