

Data Competence College III

Schedule of Events (September 28.-30. 2026)

Day 1
(Monday, 28.09.)

Day 2
(Tuesday, 29.09.)

Day 3
(Wednesday, 30.09.)

9am

10am

11am

12pm

1pm

2pm

3pm

4pm

5pm

6pm

Welcome and Introduction

Expert Presentation

Break

Expert Presentation

Expert Presentation

Break

Introduction round

Poster Session

Workshop:
Introduction to
Machine Learning

1:1 Sessions

1:1 Sessions

Coffee Break

1:1 Sessions

Lunch

Rising Star Presentation

Rising Star Presentation

Break

1:1 Sessions

1:1 Sessions

Rising Star Presentation

1:1 Sessions

1:1 Sessions

1:1 Sessions

Coffee Break

1:1 Sessions

Lunch

Interdisciplinary Exchange/Reflection

Farewell

Open to the Public

Abstracts:

Prof. Julian Kunkel: „Data Management Approaches and Challenges in Science and Research - These are my voyages“

Ensuring data reproducibility, usability, privacy, and performance in large-scale scientific computing remain critical challenges, particularly within high-performance computing (HPC) environments and research consortia. This talk elaborates on these challenges covering topics we aim to address including Trusted Research Environments (TREs), robust data management frameworks in HPC, secure data sharing via data pools, concepts for semantic data storage, optimized data ingress/egress mechanisms, the Göttinger Data Lake. The integration of these strategies is exemplified with some use cases.

My professional journey has been deeply rooted in empowering researchers to effectively use data infrastructure. This includes active participation in international consortia such as IO500, where I contributed to benchmarking standards for high-performance storage systems, driving transparency and reproducibility in HPC data environments.

As a PhD student, it is not about revolutionizing the world.

My experience led to an understanding of technical, organizational, and ethical dimensions of data stewardship in large-scale research ecosystems with the problems that still need to be addressed by future generations and collaborations.

Prof. Bodo Winter: „Designing for Diversity: Bayesian Methods and the Generalizability Crisis“

The replication crisis has sparked much-needed scrutiny of methodological practices, but what has been called the “generalizability crisis” (Yarkoni, 2022) may be an even deeper problem: many findings, even when replicable, fail to generalize because they neglect key sources of variation (cf. Winter & Grice, 2022). In part, this results from the deeply ritualized tradition of Null Hypothesis Significance Testing (Gigerenzer, 2004), within which researchers seek homogeneous samples and focus on mean differences, thereby treating variation as mere noise. I argue that Bayesian methods offer a way forward: they enable more robust estimation of variation parameters, thereby supporting richer models that can incorporate the diversity present in real data. With more flexible statistical tools, we can revisit our design assumptions and encourage a new experimental ethos of “designing with variation in mind” (Yarkoni, 2022). This ethos asks us to move away from artificially homogeneous samples toward studies that deliberately embed and model heterogeneity, thereby producing findings that better generalize. We need a radical departure away from an exclusionary focus on mean differences towards a mindset that treats variation as an important source of information, and an important target of inferential statistics.