

JGU Mainz



JOHANNES GUTENBERG
UNIVERSITÄT MAINZ



Niklaus Berger

JGU Mainz

Intense Intermediate Review, December 2022



Johannes Gutenberg-Universität Mainz

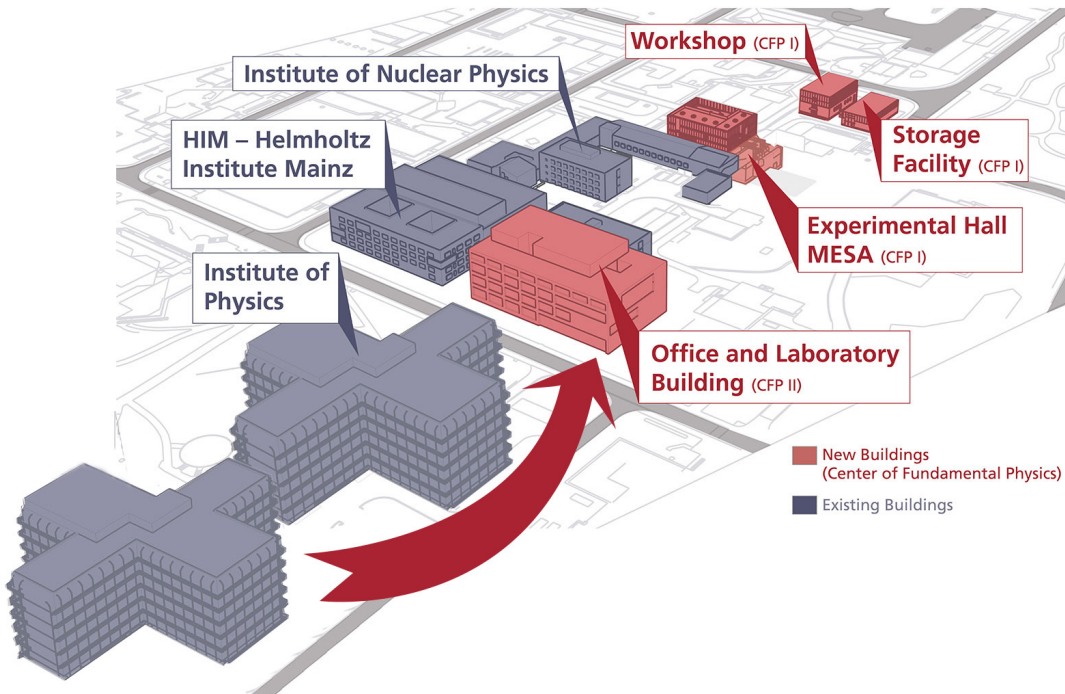


JOHANNES GUTENBERG
UNIVERSITÄT MAINZ

- Among the 10 largest universities in Germany
- 31'000 students, 4500 researchers, among them 570 professors
- Physics is one of the fields of focus of the university



Physics in Mainz



- Large department with broad research portfolio
- Particle-, hadron- and nuclear physics one of the core fields, organized in a “cluster of excellence” PRISMA⁺
- Large research infrastructure on campus:
 - MAMI electron accelerator
 - MESA electron accelerator (under construction)
 - TRIGA research reactor





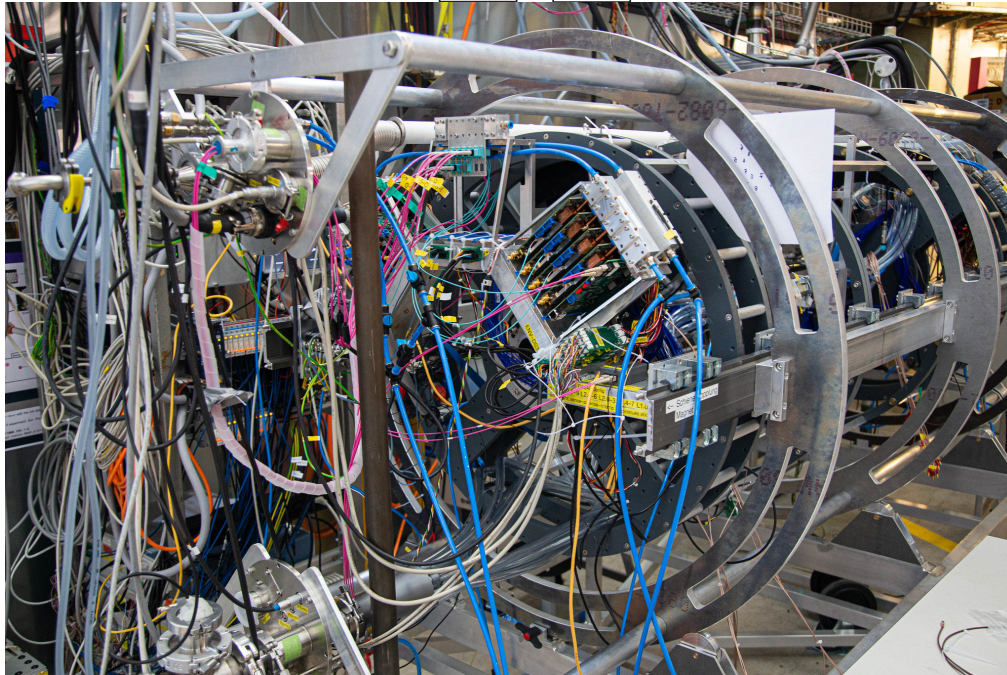
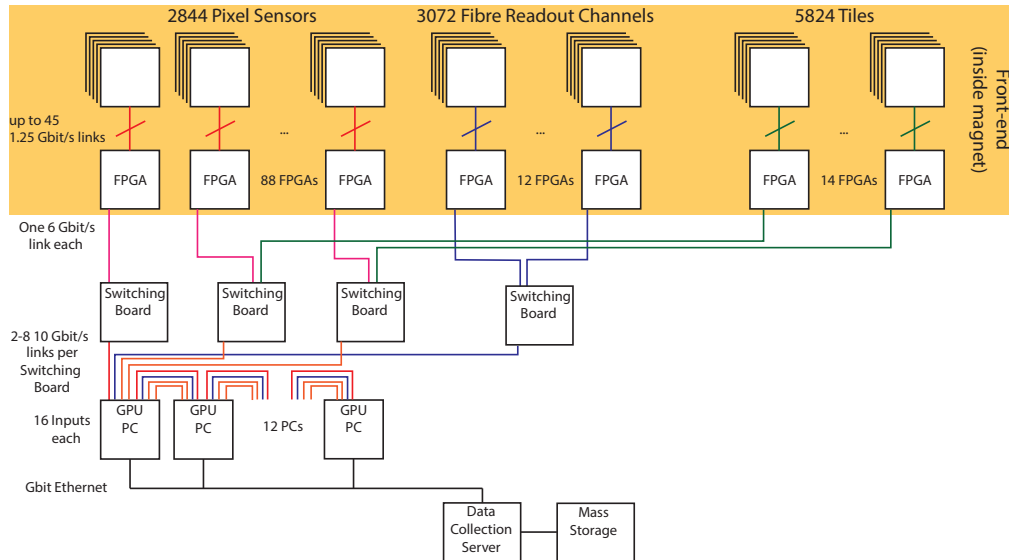
My research group

- Located at institute of nuclear physics in Mainz
- Currently:
 - 1 professor (N. Berger)
 - 3 postdocs
 - 7 Ph.D. students
 - Bachelor & master thesis students

Involved in:

- Mu3e: Lepton-flavour violating muon decays at PSI:
Data acquisition and GPU filter farm
- P2: Parity-violating electron scattering in Mainz:
Monolithic silicon pixel tracker
- BESIII: e^+e^- scattering in Beijing:
Data analysis
- MuX: Muonic X-ray studies at PSI:
Data acquisition and analysis
- muEDM: Search for a muon electric dipole moment at PSI:
Data acquisition

Mainz in INTENSE



- Mu3e: Lepton-flavour violating muon decays at PSI:
Data acquisition and GPU filter farm
- PhD project: Focus on the online reconstruction of up to 10^8 electron and positron tracks per second on graphics processing units and the associated calibration framework:
GPU and FPGA programming, tracking software, detector alignment.