
Physikalisches Kolloquium

Title: The FAIR facility - Status and future perspectives

Speaker: Prof. Dr. Thomas Nilsson,
Scientific Managing Director, FAIR GmbH, GSI Helmholtz-
zentrum für Schwerionenforschung GmbH, Darmstadt

Date & time: Friday 13.06.2025, 2 pm

Location: ZKS-Uhrturmhörsaal, S2|08, R. 171, Hochschulstraße 4

Host: Prof. Dr. Jens Braun

Abstract:

FAIR (Facility for Antiproton and Ion Research) is an international accelerator facility under construction at the site of the GSI Helmholtzzentrum für Schwerionenforschung in Darmstadt. FAIR will deliver a wide range of intense primary and secondary beams at relativistic energies, including radioactive beams of almost all elements and, in a later stage, antiprotons.

The existing GSI accelerators will become part of the future FAIR facility and serve as the first acceleration stage while simultaneously permitting a cutting-edge scientific programme using the existing installations. Within the currently approved funding scope, the vision of **FAIR2028** is being realised, where the new installations such as the SIS100 synchrotron and the Super-FRS fragment separator together with associated experimental caves and instrumentation is being combined with the existing GSI installations into a world-leading facility.



In the coming years, the strategic objectives of FAIR and GSI can be structured as:

- **Construction, installation and commissioning of FAIR, starting operation of the new facilities in 2028.**
- **GSI ready for FAIR**
 - Perform a **world-class scientific FAIR Phase-0 program** through **early physics experiments with FAIR equipment at GSI** combined with **testing and commissioning** of new accelerators and detector instrumentation while maintaining and extending the **FAIR science community**
 - **Upgrade of existing GSI facilities** for the **FAIR operation**
 - **Build a modern campus** with appropriate infrastructure for the employees and international users

An overview of the science made possible with the new and upgraded installations will be made, together with status update of the strategic objectives including recent scientific highlights.
