AGI 1: Challenges in Research Data

Time: Wednesday 14:00–16:00 Location: L-4.001

Invited Talk AGI 1.1 Wed 14:00 L-4.001

Data preservation in high energy physics — •Ulrich Schwickerath — CERN, Geneva, Switzerland

We preserve our data to extend the scientific reach of our experiments. In high energy physics it is cost-efficient to warehouse data from completed experiments on the tape archives of our national and international laboratories. To use data archived in such a way we must also preserve our ability of use the data, specifically the documentation, computing environment and software of the experiments and analyses. Successful data preservation thus requires careful planning and ongoing effort. The contribution illustrates the challenges of long-term data preservation with experience from the LEP and LHC experiments at CERN. Examples will be given of the varying degrees of success in supporting new physics searches resulting from different approaches to data preservation.

Invited Talk AGI 1.2 Wed 14:45 L-4.001

The PAHN-PaN Consortium - A Contribution to the National Research Data Infrastructure — •Thomas Schörner-Sadenius — DESY-FH/CMS, Hamburg

The national research data infrastructure (NFDI) is intended to systematically open up, sustainably secure and make accessible the databases of science and research and to network them (inter-)nationally. It will be set up in a process driven by science as a networked structure of consortia acting on their own initiative. PAHN-PaN is one of the consortia that submitted an application for NFDI funding in October 2019.

The PAHN-PaN communities (particle physics, astroparticle physics, hadron&nuclear physics) have always been at the forefront of technological developments. Today, due to the development of new accelerators, new observatories and experiments, and new detectors with increased resolutions and higher event rates, our physics is experiencing a rapid increase of data rates and volumes and also a more diverse access sharing. This boost of data leads to ever increasing demands on data analysis power and methods, and on data management capabilities. The goal of the PAHN-PaN consortium is to develop solutions for the data challenges and to help setting up the structures necessary for this endeavour. These structures will facilitate the exploitation of synergies within the consortium, easy transfer of knowledge and technology to and from neighbouring consortia and communities, and the establishing of relevant services for PAHN-PaN and the entire NFDI.

The presentation will give an overview of the status, plans and objectives of the PAHN-PaN consortium.

AGI 1.3 Wed 15:30 L-4.001

Facing the data management challenge: NFDI in the field(s) of physics — •Uwe Kahlert — RWTH Aachen University

Almost every research progress is based on the creation and evaluation of data in the broadest sense. Especially in physics these data vary enormously in type and quantity depending on the field of research. There are areas that have always had to deal with "big data" and have built up extensive expertise in the management of this data. In others, the management of research data has not kept pace with their digitalization. The aspects of sustainability and re-use have generally been considered rather secondary. With the launch of the NFDI initiative, the DFG has now initiated the establishment of a National Research Data Infrastructure. The presentation will give an overview of the initiatives and developments, especially in the field(s) of physics, and highlight synergies and possible open fields of action.