Introducing Data Management techniques into the German university curriculum

Mirl Trösch, Emanuel Soeding, Dirk Fleischer, and Axel Dennert
University of Kiel, Kiel, Germany

Data Management is high on the agenda of the German Research Organizations and Universities. While many organizations have committed to high level data management plans, these plans are often loosely binding and not followed very well. As a consequence, few practical concepts are in place, implementing a sustainable reliable processing, archiving and publication of research data. As many institutions struggle with the organizational level at which data management is conducted, students are educated and time is lost, teaching them relevance, techniques and strategies in dealing in a thoughtful and ahead looking way with their research data.

Within a new research project we are tackling this problem in a twofold way: 1. We are involving technical university personnel, who are working in labs producing scientific data, in data management processes. This requires teaching, analysis of lab practices and the development of applications for support. 2. We are developing new teaching material, in order to introduce such DM strategies into regular practical courses conducted in such labs, but also in the field, by starting small scale experiments on long term time series, or compiled texts and data. These can be analysed during successive years by generations of students within practical courses, and will serve as a live demonstration of the practical use of DM techniques in the courses.

While we have a focus on natural science fields, we also work and create material with lecturers from other disciplines. These include in particular the humanities (history and lingusitic) where structured text analysis is an important topic. By doing so, we are touching not only the traditional data-heavy disciplines, but try to bridge responsibility for the establishment of a university wide task over several disciplines and faculties. This will raise acceptance and recognition for the benefits of structured data management plans in projects. In this presentation we will highlight and report on our experience in motivating and implementing these practices within the curriculum, compare techniques in different disciplines and give an outlook into strategies how to establish a university wide data management plan.