



# Data All Around

## Research Focus Data-Centric Sciences

Data are everywhere. Satellite images make the entire world available – in detail and around the clock. Humans, too, are being captured down to the last detail, from their genetic material to their heartbeat. Traffic flows, cell structures, internet flows – and that's only the beginning. But the more data are available, the more pressing becomes the question of how to arrange, analyze, and interpret them.

Earth sciences and climate research, mathematics and computer science, medicine, chemistry, and biology but also economics and the humanities: More and more disciplines are discovering the opportunities resulting from comprehensive data collection and analysis as well as the challenges of systematically establishing, verifying, and developing scientific theories and models with the help of data.

The newly established research focus Data-Centric Sciences at the University of Potsdam will address these challenges across disciplines and faculties. To this end, it will build on the well-established research strength in the fields of applied and numerical mathematics, statistics and data processing, computer science and machine learning at the University of Potsdam and continue to interconnect and use these across the University. Consequently, researchers from four faculties will be involved in the research focus from the beginning. Many of them are already involved in large data-centric research projects and networks, including the two Collaborative Research Centers “Data Assimilation” (CRC 1294) and “Limits of Variability in Language” (CRC 1287).

Intensive scientific networking will initiate high-caliber research activities in the field of data-centric sciences and provide much-needed expertise for other prominent research areas at the University of Potsdam. Geosciences and political sciences will benefit as much from this as astrophysics, biology, and environmental sciences.

The main goal is, of course, a sustainable education and promotion of young researchers in the field of data-centric sciences. Newly developed courses will not only be available to university-oriented Master's programs such as mathematics, data science and data engineering, and digital health, but can be used throughout the University.

In this way, academic studies and research in many disciplines will naturally center on data – and the question of how they can best be used and transformed into new insights.

