**[Data Science Initiative](https://datascience.uoregon.edu/)**

This new interdisciplinary initiative aims to bring data science activities from around campus into an integrated effort to support and enhance these activities, and includes research as well as educational components. The initiative includes topic areas such as environmental big data, business analytics, biomedical data science, and data science of social interactions and social impacts. The core of the program will include data collection, database creation and curation, and statistical and computational analysis.

UO has ninety-one faculty who are doing work in data science, from departments of psychology, music, physics, biology, school of business, college of education, digital arts, English, linguistics, and many more. Examples include:

* In *biology*, one faculty uses computational and mathematical approaches to leverage genome sequence data for evolutionary inference.
* In *computer and information sciences*, one researcher draws on the subfields of AI such as multi-agent systems, game theory, machine learning, and optimization, as well as fields outside of AI such as cognitive modeling and conservation biology to create solutions to issues of public safety, cyber security, sustainability, and public health.
* In *economics*, one researcher is focused on using remote sensing and other big data products to address environmental policy questions.
* In *earth sciences*, one faculty uses real-world seismic data to his research to reveal the physics of earthquakes and other seismic shifts. Analyzing data helps the research team understand the impacts of future earthquakes, and helps them identify potential ruptures in specific areas around the globe.
* In the *education*, computational approaches to large-scale educational research, including national and geographic trends and variations in achievement gaps, as well as community-level features that relate to this variation, is an area of focus.
* In *physics*, one focus of research is on applying Bayesian forward-modeling techniques to astronomical data sets.
* In *philosophy*, a focus of research mobilizes concepts from political philosophy and historiography to explore the political dimensions of ways in which data is increasingly defining our selfhood—such as how the emergence of mass-scale data systems that store social security numbers and birth certificates, data techniques for categorizing personality traits and measuring intelligence, and the role of data in the shadow of racial inequality.
* UO and [Oregon Health & Science University](https://news.ohsu.edu/2019/06/13/ohsu-uo-join-forces-to-combat-cancer-with-data-science) also are working together to create a joint center in biomedical data science that would empower researchers at both institutions to attack cancer with big data. The center initially involves as many as 20 researchers and their teams.

UO has powerful resources for researchers in data science, including one of the fastest academic supercomputers in the Northwest, known as Talapas. The high-performance computing center is able to perform more than 250 trillion calculations per second. Researchers at the University of Oregon can access Talapas, and other resources available through Research Advanced Computing Services, for everything from statistical studies to genomic assemblies to quantum chemistry. Another key resource is the Data Science Initiative Seed Fund grant, which provides funding for convenings, and for pilot research that would lead to external funding to expand the research.