

Assistant/Associate Professors--Physical Science and Data Science

Job Summary

The College of Science at Purdue University invites applications for multiple positions in “Physical Science and Data Science” at the Assistant or Associate Professor level beginning August 17, 2020. Assistant Professor candidates with exceptional qualifications may be considered for an early career endowed professorship. This opportunity is coordinated with concurrent searches in “Computer Science, Mathematics, and Statistics focused on Data Science” and “Data Science in the Life Sciences.”

Qualifications

These positions come at a time of new leadership and with multiple commitments of significant investment for the College of Science. We particularly encourage candidates who demonstrate the potential for collaboration across multiple disciplines. We expect that most faculty hired through this search will have interdepartmental joint appointments. College of Science Departments hosting research related to Physical Science include: [Chemistry](#), [Earth, Atmospheric, and Planetary Sciences](#), and [Physics and Astronomy](#), as well as [Computer Science](#), [Mathematics](#), and [Statistics](#). Candidates must have a Ph.D. (or its equivalent) in a closely related field.

Successful candidates are expected to develop a vigorous, externally funded, internationally recognized theoretical, computational, experimental, and/or observational research program that addresses research questions of fundamental importance. They are also expected to teach undergraduate and/or graduate courses to a diverse student body and supervise graduate students. Successful candidates will combine an outstanding record of research excellence with a commitment to effective and engaged teaching in both physical science and data science. Candidates should have a broad understanding of the numerical and analytic methods in data science, including machine learning, for physical science subject matters, along with the software systems that implement them.

The candidate’s program is expected to complement existing research within the home department and teaching needs at the undergraduate and graduate levels. The potential to develop one or more of the following areas is desirable.

- Development and application of data science and machine learning methods to all areas of chemistry, including computational chemistry, measurement science, analytical chemistry, organic chemistry, physical chemistry, and biological chemistry, or
- Development and application of data intensive computations in the fields of numerical astrophysics and cosmology, or
- Development of techniques in big data/astrostatistics in a variety of astronomical sub-fields with increasingly large data sets, or

- Development and application of advanced data science methods to areas of atmospheric sciences, including but not limited to computational geofluid dynamics, clouds and convection, climate systems, severe weather, subseasonal-to-seasonal prediction, atmospheric chemistry, and remote sensing of Earth or other planetary atmospheres, or
- Development and application of data science methods to large-scale problems in solid-earth geosciences, including but not limited to those of theoretical and applied geophysics, seismology, geodynamics, tectonophysics, geochemistry, and energy science.

The University, College and Departments

[Purdue University](#) is a public land-grant university in West Lafayette, Indiana. [Purdue Discovery Park](#) provides open, collaborative research environments with over 25 interdisciplinary centers, institutes, and affiliated project centers, most notably the [Integrative Data Science Initiative](#). The [Rosen Center for Advanced Computing](#) offers advanced computational resources and services with local HPC clusters, research data storage, and data networks. It is the campus liaison to NSF XSEDE and Open Science Grid.

As a part of the Physics and Astronomy department, the Astrophysics group has a strong funding record by the major agencies. NSF is strongly invested in LSST, advanced LIGO, and IceCube; all areas of research focus in the group. Inter-departmental efforts to connect with faculty in Computer Science and Statistics in the broad scope of Data Science are underway to develop a state-of-the-art classification and strategy engine for LSST. The group has leadership in theoretical and data intensive numerical modeling of Astrophysical sources making extensive use of the Purdue as well as NASA and NSF clusters.

The Department of Earth, Atmospheric, and Planetary Sciences has a Geodata Science Initiative that merges geosciences and data science strategically in research and education. Select participants conduct transdisciplinary collaborative research in the nexus of weather, climate, environment, resources, energy, and society, supported by HPC clusters with GPU, Hadoop, or Spark systems. The Geodata Science for Professionals MS program is an agent for industrial partnerships.

Application Procedure:

Applicants should submit a cover letter, a curriculum vitae, a teaching statement, and a description of proposed research electronically at <https://career8.successfactors.com/sfcareer/jobreqcareer?jobId=8002&company=purdueuniv&userame=>. Additionally, applicants should arrange for three letters of reference to be e-mailed to the search committee at physdatasci@purdue.edu, specifically indicating the position for which the applicant is applying. Applications will be held in strict confidence and will be reviewed beginning December 1, 2019. Applications will remain in consideration until positions are filled. Inquiries can be sent to physdatasci@purdue.edu.

Purdue University's College of Science is committed to advancing diversity in all areas of faculty effort, including scholarship, instruction, and engagement. Candidates should address at least one of these areas in the cover letter, indicating past experiences, current interests or activities, and/or future goals to promote a climate that values diversity, and inclusion. Salary and benefits are competitive, and Purdue is a [dual-career friendly](#) employer.

Purdue University is an EOE/AA employer. All individuals, including minorities, women, individuals with disabilities, and veterans are encouraged to apply.