

Faculty To Study Data Systems on Unprecedented Scale - Professors Borgman and Traweek Receive \$1.174 Million From Alfred P. Sloan Foundation

By Kathy Wyer

Information Studies Professor Christine L. Borgman and Associate Professor of Women's Studies and History Sharon Traweek have been awarded \$1.174 million from the Alfred P. Sloan Foundation to conduct ethnographic studies of scientific information and data practices that will shape the future of how institutions manage and share large and complex sets of research intelligence. The pair are Principal and co-Principal Investigators, respectively, of the project, "The Transformation of Knowledge, Culture, and Practice in Data-Driven Science: A Knowledge Infrastructures Perspective," to be funded over three years starting January 1, 2012.

"Data-driven science is accelerating rapidly, but lacks the necessary social, technical or policy infrastructure to support effective management of those data. Universities, libraries, funding agencies, and investigators are making critical decisions about what data to keep, in what form, for how long, and at what price," stated Borgman. "All of these efforts are hampered by the lack of robust research that compares sites, disciplines, practices, and policies over a long period of time. No study of data practices and policy has been attempted at this scale."

The study will compare projects that produce large volumes of uniform or similar data against those that produce smaller amounts of diverse data, and will also compare projects at earlier and later stages of their life cycles to determine the knowledge infrastructure requirements for a broad spectrum of scientific research and practice. These comparisons will also enable researchers to assess different types of knowledge transfer among scientists, information professionals, research and science projects, and the public, as well as to make recommendations for policy and practice.

The larger aspect of the study is devoted to the transfer of data collected by the Sloan Digital Sky Survey (SDSS), a massive, decade-long astronomical survey that has used a pioneering 2.5-meter telescope to systematically map a quarter of the sky. The SDSS is now entering its archival phase, and its data are being transferred from their curation environment at Fermilab, which played a key scientific role in the development and operation of the SDSS, to libraries at Johns Hopkins and Princeton Universities. As the data change hands, new kinds of infrastructures, expertise, and knowledge will be required.

In addition to the SDSS data transfer, the project will include an examination of data transfers at multiple sites. Among those sites are the Center for Embedded Networked Sensing (CENS) at UCLA, whose funding as a National Science Foundation Science and Technology center is ending in 2012 and which will allow the transition of data to be explored in the launch of new centers, and Dataverse Network at Harvard University, an open source application for publishing, citing, and discovering research data that is now moving to a new technical platform.

More information on the project is available at:
<http://knowledgeinfrastructures.gseis.ucla.edu>

Christine L. Borgman is Professor and Presidential Chair in Information Studies at UCLA. She is the author of more than 200 publications in the fields of information studies, computer science, and communication, including *Scholarship in the Digital age: Information, Infrastructure, and the Internet* (MIT Press, 2007) and *From Gutenberg to the Global Information Infrastructure: Access to Information in the Networked World* (MIT Press, 2000).

Professor Traweek is the author of *Beamtimes and Lifetimes: The World of High Energy Physicists* (Harvard, 1988), which is used in courses worldwide as an exemplar of how to conduct ethnographic research on knowledge-making practices among scientists. She has published widely and given over 225 talks in 16 countries for researchers in universities, industry, and government.

The Alfred P. Sloan Foundation is a philanthropic, not-for-profit grant making institution based in New York City. Established in 1934 by Alfred Pritchard Sloan Jr., then-President and Chief Executive Officer of the General Motors Corporation, the Foundation makes grants in support of original research and education in science, technology, engineering, mathematics and economic performance. www.sloan.org.

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