

Future Career Opportunities and Educational Requirements for Digital Curation: A Consensus Study

**Board on Research Data and Information
Policy and Global Affairs Division
National Academy of Sciences**

SUMMARY

With the continuing increase in the use of digital data technology, we face unprecedented challenges of managing what has been called an “exaflood” of data. The promise of digital technology to afford widespread access to and use of huge amounts of data brings with it a growing need and opportunities for a workforce with a combination of skills and expertise needed to select, acquire, manage, control, provide access to, reuse, and preserve, digital data. As research organizations in both the private and the public sectors, businesses, libraries, museums, and even individuals continue to create and accumulate a wealth of electronic data, they confront new challenges in the need to effectively manage and preserve those digital resources in an ever-increasing diversity of physical and logical formats.

Over the past couple of decades these institutions have made major shifts from the physical to electronic environments. For these shifts to be effective and economically beneficial dramatic changes in the skill sets are needed to perform the new digital curation functions well. While many institutions have achieved much progress in the addressing the demands of new digital technologies, there is a need to assess how successful these efforts have been, and indeed whether the types of institutions and professionals that are striving to meet these challenges are the most appropriate ones to do so.

In particular, while we face a critical need for a workforce with the skills and expertise required for digital curation, we also confront a challenge of potentially high unemployment and structural economic dislocations. A workforce with the kinds of expertise required for digital curation may present re-training opportunities as well as new career paths for upcoming generations. Such a workforce could contribute very significantly to the economic and social progress of the nation in the context of the “knowledge economy” and “information society.” In order to best match the needs for a properly skilled workforce and the education and training requirements of that workforce for viable job and career opportunities, it makes sense to examine both sides of the problem.

Consequently, an ad hoc committee of the National Research Council’s (NRC’s) Board on Research Data and Information (BRDI) is conducting a study on future career opportunities and educational requirements for digital curation¹, including the following tasks:

1. Identify the various practices and spectrum of skill sets that comprise digital curation, looking in particular at human versus automated tasks, both now and in the foreseeable future.
2. Examine the possible career path demands and options for professionals working in digital curation activities, and analyze the economic and social importance of these employment opportunities for the nation over time. In particular, identify and analyze the evolving roles and models of digital curation functions in research organizations, and their effects on employment opportunities and requirements.
3. Identify and assess the existing and future models for education and training in digital curation skill sets and career paths in various domains.
4. Produce a consensus report with findings and recommendations, taking into consideration the various stakeholder groups in the digital curation community, that address items 1-3 above.

The study began in September 2012 and will be completed in 18 months. The resulting report will be published in accordance with NRC procedures.

¹ As used in this study, the term “digital curation” refers to the active management of digital information for current and future use.

STUDY COMMITTEE MEMBERS

Margaret Hedstrom (Chair),
Associate Dean for Academic Programs and Professor at the School of Information, University of Michigan

Kathleen M. Carley,
Professor of computation, organization, and society at the Institute for Software Research at Carnegie Mellon University

Lee Dirks,
Director of Education and Scholarly Communication, External Research division, Microsoft

Nicholas Economides,
Professor of Economics, Stern School of Business, New York University

Peter Fox,
Professor and Tetherless World Research Constellation Chair, Climate Variability and Solar-Terrestrial Physics Department, Rensselaer Polytechnic Institute

Michael Goodchild (NAS),
Professor of Geography, University of California, Santa Barbara

Heather Joseph
Executive Director, Scholarly Publishing and Academic Resources Coalition (SPARC)

Ron Larsen,
Dean and Professor, University of Pittsburgh School of Information Science

Carole Palmer,
Professor and Director of the Center for Informatics Research in Science and Scholarship (CIRSS), University of Illinois at Urbana-Champaign

David Schindel,
Executive Secretary of the Consortium for the Barcode of Life (CBOL), an international initiative hosted by the Smithsonian Institution's Museum of Natural History

Stephen Wandner,
Recently retired as a Senior Economist at the U.S. Department of Labor; Visiting Fellow at the Center of Labor, Human Services, and Population of the Urban Institute in Washington, DC

Staff Contacts at the National Academies:

Paul F. Uhlir, Director, Board on Research Data and Information, puhlir@nas.edu, and Subhash Kuvelker, Study Director, skuvelke@nas.edu

For additional information about the project, please see the Board's website at:
http://sites.nationalacademies.org/PGA/brdi/PGA_066216