**Evolution of the services and customer relationships of the Information Services Office at NIST: Taking collaboration to the next level.**

**Librarians and Scientists Partner to Address Data Management: Taking Collaboration to the Next Level**

Andrea Medina-Smith

Barbara P. Silcox

Kimberly A. Tryka

**Introduction**

The Information Services Office (ISO) at the National Institute of Standards and Technology (NIST) has been actively developing customer relationships with the NIST Laboratory programs over the last 18 years. Beginning with the 1998 strategic planning efforts, ISO laid the foundation to work with the NIST research community to plan, develop, and deliver services that facilitated and added value to the dissemination of NIST research results.[[1]](#footnote-1) By 2015, ISO’s strategic plan identified specific objectives and actions for collaborating and partnering with NIST researchers. This change in language reflects the recognition that some types of interactions are not easily squeezed into the category of service and need to be thought of more in terms of research or experimentation. During the years between the two strategic plans ISO took incremental, steps to expand outreach, build on established relationships, and become skilled in new areas, such as data management and data visualization.

ISO attributes its successful and productive relationships with NIST researchers to several factors:

* Consistent strategic focus on seeking out opportunities to listen, learn, and work with NIST researchers and programmatic staff
* Recruiting staff with talent and willingness to engage with researchers in a meaningful way, beyond the more typical reference interview
* Creating an environment that encourages risk-taking
* Staying abreast of the technologies, trends, and issues in scholarly communication to be able to assume a leadership role

As an example of these newer types of collaborations this paper discusses the relationship ISO has developed in the last year with one laboratory program – the Office of Data and Informatics (ODI), how this relationship was forged, and how this collaboration will serve as a model for working with the other labs and programs at NIST. For the first time, ISO staff are working with a lab personnel, as experts in information management, to help solve data management problems, rather than acting solely as service providers. Projects have included user testing for data management tools, data dictionary development, and metadata consultation.

This paper will also discuss the risks and opportunities of a collaborative service model, how ISO positioned itself to become an equal partner to explore new services and research projects with the ODI, and the benefits of the relationship from the perspective of the ODI.

**Background**

*Organizations*

The National Institute of Standards and Technology (NIST), founded in 1901, is a non-regulatory agency within the U.S, Department of Commerce. Its mission is “to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.” The NIST Laboratory programs conduct measurement and technology research across a range of science and engineering disciplines.

The Office of Data and Informatics (ODI) was created in <date> to provide guidance, assistance and resources for optimizing the discoverability, usability, and interoperability of data products in ways that support NIST scientists and stakeholders. The ODI supports National needs such as the Materials Genome Initiative (MGI) and biological and chemical data integration, as well as the modernization of current NIST reference data services for use in state-of-the-art computer paradigms (i.e., virtual computing, parallel analysis, interoperability, semantic web, etc.) and the development of next generation NIST reference data services.

The Information Services Office (ISO) provides professional scientific and technical information assistance to NIST research staff throughout their research and publishing cycles through the activities of three programs: the Research Library, the Digital Services and Publishing Group (DSPG), and the Museum and History Program. ISO is an award winning organization with a deeply rooted commitment to customer service excellence and a culture that encourages collaboration, learning, and risk taking.[[2]](#footnote-2) DSPG’s major activities focus on implementing strategies for increasing the visibility and long term access to NIST research results and providing guidance to NIST researchers on publishing and data management.

Both ISO and ODI have a stake in ensuring that NIST’s data sets are well described, discoverable, and preserved. This common interest forms the basis of a growing, productive partnership between the two organizations.

*Lab Liaison Program*

Librarians in ISO are assigned to NIST Labs and Programs to serve as a single point of contact with ISO. Each librarian, acting as a lab liaison, establishes and maintains close working relationships with managers and scientists in their assigned organization. This enables them to deliver targeted, customized services that includes assessing the impact of the lab’s work, providing guidance on the best methods for digitizing and preserving research support materials, compiling and analyzing industry data, and conducting bibliometric studies of NIST papers.

The role of the Librarian Lab Liaison has evolved from “ambassadors” focusing on the use of the Research Library’s collections and information resources to a research partner contributing expertise to assist lab personnel (both bench scientists and managers) and programmatic staff with their work. What is unique about the relationship with ODI is that the librarians and researchers are working jointly to address open-ended problems. Each of the players brings a set of skills to the table, valuable in their own regard, but more effective when combined with the others facing similar challenges. This new relationship was largely driven by the mandates for federal agencies to meet the open data and public access to federal research requirements from the Office of Management and Budget (OMB) and Office of Science and Technology Policy (OSTP). Leadership at NIST, like other federal agencies, needed to create a formal response and started to examine the practices related to data and publications created by their researchers. Because of its unique position, both as a resource for researchers and as a publisher of technical information, ISO librarians had the opportunity to play a major role in these early efforts.

*Federal Mandates*

In 2013, the Office of Science and Technology Policy (OSTP), directed Federal agencies with more than $100M in R&D expenditures, such as NIST, to develop plans for making the published results of federally funded research freely available to the public within one year of publication and requiring researchers to better account for and manage the digital data resulting from federally funded scientific research.

**Solving Data Management Problems With ODI**

The close relationship between ISO and ODI began with two new-hires. In the summer of 2014 ISO hired a Research Data Librarian and ODI brought in its inaugural director. Both of these positions involved outreach to their respective constituencies about the OSTP plan and other NIST-wide data management efforts. It became clear early on that ISO and ODI, working together, could collaborate on several early projects. The first project was actually a hold-over from pre-ODI days and involved developing a catalog of codes for the MML portion of the Materials Genome Initiative. As much of the infrastructure to disseminate this project was under the auspices of the Code Catalog fell under ODI the director and other staff members became involved.

Other projects: ramping up the DMP Tool, Bibliometrics of SRD, applying for NDSR

The most traditional project that ODI and ISO have collaborated on is a bibliographic analysis of Standard Reference Databases. By collating the number of citations to each SRD found on Thompson-Reuter’s Web of Science, Google Scholar, Google Patents and <<ONE OTHER PATENT SITE>> we could analyzed the usefulness of the products in their current state. The project was first done for two SRD and after consultation with the ODI director was expanded to cover all 100+ products. While the methodology and report style was common for lab liaisons, the research product analyzed was novel. ODI has taken the numbers provided and lined them up with an analysis of the number of times each product is accessed online (via number of hits). The report has opened up a new vein of inquiry into whether or not the lower cited products are out of date or whether the products need more user friendly interface.

A direct outcome of the OSTP memo response is the mandating of Data Management Plans. ODI has created a tool (the DMPTool) for use by MML researchers to capture data management plans and data products; this information can eventually be fed into NIST’s Enterprise Data Inventory for public consumption via a json file and data.gov. The DMPTool took much of its structure from an ISO led prototype and a metadata schema that expands upon the required metadata described by Project Open Data; both of these products are available to all NIST OUs. Once the DMPTool was in alpha testing ISO assisted with usability testing and suggested changes to the layout and language used in the tool.

A joint project that was an exercise in relationship building and creating a shared, imagined, future was applying to be a host institution for the National Digital Stewardship Residency (NDSR) program. The NDSR selects 10 sites to host residents whose job it is to develop digital stewardship skills and a project that is mutually beneficial to the resident and host institution. In the proposal the project outlined was to create plans to move the DMPTool beyond its initial stage. This included textural analysis of data management plans, further usability testing of the website and creation of a subject taxonomy for use within the Tool.

Creating the proposal was included a series of discussions on what a successful co-mentorship would look like. With each discussion the table was being set for ODI to bring domain expertise and experience in maintaining large datasets and ISO to bring experience organizing information, creating taxonomies and <<ONE OTHER THING>>. Though the proposal was not accepted it set the stage for continued conversations about big topics and how ODI and ISO can tackle them together.

1. Office of Information Services Strategic Plan, 1998. [↑](#footnote-ref-1)
2. The organization received the Federal Library of the Year Award from the Federal Library and Information Center Committee (FLICC) of the Library of Congress in recognition of its innovative practices and customer focus in 2003, 2008, and 2013. [↑](#footnote-ref-2)