

## Directorate of Mathematical and Physical Sciences

### Division of Materials Research (DMR)

#### Updated Advice to Principal Investigators on Data Management

Plans January 16, 2018

Proposals to the National Science Foundation are required to contain a two-page Data Management Plan uploaded into the Supplementary Documentation section of the proposal. The Data Management Plan must conform to NSF policy on the dissemination and sharing of research results (see the PAPPG [Chapter XI.D.4](#)). Many diverse research cultures comprise the Materials Research community. The Division of Materials Research (DMR) recognizes the need for flexibility in developing Data Management plans that fit the practices of specific research areas and are appropriate to the research activity. In addition, data management practices are rapidly evolving. For example, the growing use of data and metadata sharing conducted through relevant material/property-specific databases to enable data re-use. DMR relies on the process of peer review to allow the broad materials community to identify best practices. Due to the diverse communities supported by DMR, the Division does not recommend a Division-specific single data sharing and archiving approach. However, the Data Management Plan should be specific, substantive, and convincing to the reviewing community.

For many projects, an effective Data Management Plan will respond to the specific elements presented in the PAPPG [Chapter II.C.2.j](#):

1. the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;
2. the standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);
3. policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
4. policies and provisions for re-use, re-distribution, and the production of derivatives; and
5. plans for archiving data, samples, and other research products, and for preservation of access to them.

Some projects may not require a detailed Data Management Plan. In these cases, the statement that a detailed Data Management Plan is not required must be accompanied by a clear and adequate justification.

If an award is made, data-related activities and actions taken to execute the Data Management Plan should be described in annual and final project reports.

Data created or generated in the course of the research supported by an NSF award are considered to be among the products of the award. As such, it is subject to the review process of future proposals through the evaluation of Results from Prior NSF Support (see the PAPPG [Chapter II.C.2.d.iii](#)).

The Division of Chemistry's [Advice to Principal Investigators on Data Management Plans](#) and references therein may be a useful resource in developing an effective data management plan.