

National Science Foundation (nsf.gov): NSF-DMR: Materials Research

Element 1: Data Types

1A. Types and amount of scientific data expected to be generated in the project:

Summarize the types and estimated amount of scientific data expected to be generated in the project.

1B. Of the generated scientific data in 1.A, the scientific data that will be preserved and shared, and the associated rationale:

Describe which types of scientific data from the project will be preserved and shared and briefly provide the rationale for this decision.

1C. Metadata and associated documentation:

Briefly list the metadata (provides information about the scientific data) and any associated documentation (e.g., study protocols, research methods, and data-collection instruments) that will be made accessible to facilitate interpretation of the preserved and shared scientific data.

Element 2: Related Tools, Software/Code, and/or Other Digital Products

2A. Specialized tools, Software/Code, and/or Services for Access or Interpretation

State whether specialized tools, software/code and/or services are needed to access, manipulate, or interpret the preserved and shared data, and if so, provide the name(s) of the tool(s) and software/code or services, and specify how they can be found, accessed, and used (a link may be adequate).

2B. Software/Code and/or Other Digital Products Produced:

State software/code and/or other digital products expected to result from the successful execution of the project and to be distributed according to FAIR principles. Include any license intended to be used for the release and a justification for the choice, and how the product will be made accessible (include methods used to advertise to the broader community). Machine learning models should ideally be distributed along with associated training data.

Element 3: Data Standards for Interoperability

3. *State what common data standards will be applied to the preserved and shared scientific data, and associated metadata to enable interoperability of datasets and resources and describe how these data standards will be applied. If applicable, indicate that no consensus standards exist.*

Element 4: Data Preservation, Access, Reuse, and Associated Timelines

4A. Repository where scientific data and metadata will be available for reuse:

Provide the name of the repository(ies) from which preserved and shared scientific data and metadata arising from the project will be available for reuse; see [Dear Colleague Letter: Effective Practices for Making Research Data Discoverable and Citable \(Data Sharing\)](#) and [Desirable Characteristics of Data Repositories for Federally Funded Research](#).

4B. How scientific data will be findable and identifiable:

Describe how the scientific data will be findable and identifiable, i.e., via a persistent unique identifier (e.g., DOI), listing in a registry, or other standard indexing techniques.

4C. When and for how long the scientific data will be made broadly available:

Describe when the scientific data will be made broadly available (i.e., no later than when an associated publication appears or end of the performance period, whichever comes first) and for how long data will be available. Include any external factors that may affect time of appearance.

Element 5: Factors Affecting Access, Distribution, or Reuse

5A. Factors affecting subsequent access, distribution, or reuse of scientific data:

NSF expects that in drafting Plans, researchers should maximize the appropriate sharing of scientific data. Describe and clearly justify any applicable factors or data-use limitations affecting subsequent access, distribution, or reuse of scientific data.

5B. Protections for privacy, rights, and confidentiality of human research participants:

If generating data derived from humans, describe how the privacy, rights, and confidentiality of human research participants will be protected (e.g., through de-identification, Certificates of Confidentiality, and

other protective measures). You should include in Element 5A above factors related to informed consent, privacy and confidentiality protections that may limit access, distribution, or reuse of such data.

Element 6: Review and Updating of the Data Management and Sharing Plan:

6. The Data Management and sharing Plan should be a living document that is updated during the lifetime of the award, as needed. Describe how and when this Plan will be reviewed, re-evaluated, and updated, to ensure it best serves its purpose. For example, updates to the Plan can be reported in Annual Project Reports.