Generic NSF DMP

A Data Management Plan created using DMPTool

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Template: NSF

Project abstract:

This is a sample project DMP to show how you can fill out a plan.

Last modified: 02-07-2019

Copyright information:

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Types of data produced

The program will generate raw and converted data (including images), derived data from a large array of instrumentation at Binghamton University and its partners. Metadata will describe the measurements and experiments, parameters will also be produced.

The total storage demand of 500GB is anticipated at Binghamton and its partners.

The data, samples, and materials expected to be produced will consist of laboratory notebooks, raw data files from experiments, plots and printouts, experimental analysis data files, simulation files and date, microscopy images, LabView acquisition programs, MATLAB files photoemission, mass spectrometry data/spectra, x-ray diffraction (XRD) data, etc. typical of research in chemistry, physics and engineering. The data can be described as follows:

1. Laboratory notebooks are required of a faculty and students in the program who will record observations, procedures, and ideas generated through the research.
2. Experimental raw data files: these files will consist of ASCII text that directly represents the data acquired from instrumentation.
3. Experimental analysis files: spreadsheets, plots, and associated software for data analysis
4. Simulation data: These data will be produced by commercially simulation and modeling software

Data and metadata standards

The Dublin Core Metadata Initiative (DCMI) will be used as the standard for metadata. The metadata set consists of fifteen elements, including title, creator, date, format, subject, description, et cetera, plus qualifiers for a total of fifty possible metadata fields. This standard satisfies international standards (ISO Standard 15836:2009) (ANSI/NISO Standard Z39.85-2007). Standard naming conventions for all commercially available software used in the program will be consistently used so that all programs and data are accessible to others. Images and similar formats will be available in pdf format.

Policies for access and sharing

All of the data and reports will be available through the data archiving and preservation system described below with the exceptions noted here. Data and reports will be limited to members of the program until publications and presentations are submitted. Some data and reports may be withheld until the results are reviewed by the appropriate intellectual property office at Binghamton or the partner institutions. Proprietary information (if any) provided by commercial firms under a confidentiality agreement will not be available without the consent of the firms. It is not anticipated that there will be privacy issues nor is the research associated with human subjects.

Policies for re-use, redistribution

Any and all of the data produced, subject to potential delays for publication and patents, will be available to any person. Faculty in the program will assist those who may make inquiries to gain access to data and reports. A web page for the program will describe who to contact and how to access data and any restrictions on access. Those conducting research in related areas of renewable energy, energy storage, and energy systems are likely to be interested in the data. Potential users include industrial firms, universities, and governmental agencies.

Plans for archiving and preservation

Binghamton University Libraries uses Ex Libris' digital preservation system known as Rosetta. Rosetta is used by leading institutions around the world including Eidgenössische Technische Hochschule Zürich (ETH-Zurich) and the National Library of New Zealand to preserve digital information. The Rosetta system follows international standards for digital preservation such as the Open Archival Information System (OAIS) Reference Model (ISO 14721:2003). The system is well supported by multiple staff in the Libraries. For this project the Libraries will provide data archiving and preservation services at no cost. Librarians will educate and assist faculty and researchers in the collection, organization, and description of data. Librarians will also assist researchers in accessing and retrieving data from Binghamton and elsewhere. Digitized research data will be preserved for a minimum of five years after completing the program. Preservation copies of data will also be kept off-site in case data recovery is necessary.