

Data Management Plan:

Data storage and preservation of access. The research data will be archived in the digital format by the UTD IT department on the university file servers, or in file servers specific to the PIs laboratory that operate under the supervision of the UTD IT department. This data storage will be performed in a safe and effective manner, with sufficient provisions for backup and recovery in case of equipment failure.

Period of data retention: No specific limit is envisioned at this time for the length of data retention after public release of the research outcomes. The detailed (raw) experimental and simulation data, even though they are not strictly required by NSF data retention policies, will be retained at least one year subsequent to the termination of the grant. The numerical data that is used for the generation of plots, figures, and tables will be retained for at least three years subsequent to the termination of the grant or three years subsequent to the public release, whichever is later.

Expected Data: The expected data from the proposed activity has three sources: experimental data, simulation data, and educational products.

The experimental data has two main flavors. One source of experimental data is the data samples collected by the National Instruments data acquisition system which will be stored in excel files. This data will then be used to create derivative products such as graphs, tables, and plots. Another source of experimental data is the [REDACTED] experiments. These pictures will be stored in JPEG format. The composite video constructed from these pictures may be stored in one of a variety of formats, e.g., MPEG, flash, or AVI, as needed. Pictures recorded by the CCD cameras from the

The main source of simulation data in the proposed activity is the ANSYSFLUENT software. This software produces data in its own native format, which will be saved and preserved in that format. This data may be used to create derivative products such as graphs, plots, or tables. This secondary data will be stored and preserved in the format most suitable for the purposes for which it is used. It is expected that the files may be in excel format for the secondary data, as well as postscript and pdf for visual data in plots and figures.

In conjunction with the research component, the PI will develop a specialty course entitled [REDACTED] at the graduate level for the mechanical engineering department at the University of Texas at Dallas. The course slides and notes will be posted on the PI website accessible to the students enrolled in the class.

Data Dissemination Policy: The PI will share the results of the activity with other researchers within a reasonable time in order to conform to the NSF policy on dissemination and sharing of research results. The public release of data will be at the earliest reasonable time. As soon as validating the data extracted from the proposed activity is complete, the results will be accessible through publications, seminars, and via the web. Specifically, the proposed activity findings will be promptly presented in local regional, national and international conferences. The PI will publish the outcome of the investigation in journal papers. Graduate theses will be published from the results of the proposed activity which will be accessible to the public. The PI will also publicize the research results on her website via multimedia slides or video presentations.

To ensure the quality of the data, the PI plans to release any and all data only after the peer review process. The PI's research does not produce any data that may produce security or privacy concerns nor have any industrial or academic partners. The principal investigators on the project and their institution hold the copyright for the generated research data.

Postaward monitoring: After an award is made, data management will be monitored primarily through the normal NSF annual and final report processes.