SAMPLE UW DATA MANAGEMENT PLAN –
Compiled by Sarah L. Keller for the College of Arts and Sciences

PI: UW-Researcher
Project Title: Great-UW-Title

1. Data and metadata to be collected; formats and accepted community-wide standards:

Raw data in the form of micrographs will be collected in an interoperable format that is a community-wide standard, namely uncompressed .tif formats. AFM images will be analyzed as .tif files. These image types are universally accessible through free Image J (rsbweb.nih.gov/ij/download.html) software. Videos will be collected as .tif stacks. Temperature values acquired by LabView will be in text format. Measurement standards for the relevant experimental systems entail high statistics (e.g. evaluation of ~100 vesicles to determine transition temperatures), reproduction of results (e.g. at least two independent tests) and calculation of standard deviations. Measurement standards will be clearly reported in scientific publications. We anticipate generating designs (e.g. photomasks for microfabrication) and procedures (e.g. microfabrication recipes) that will be saved as images, as text files, or as hand-written notes in laboratory notebooks. Metadata that includes date, researcher's name, methods, and experimental conditions will be recorded in lab notebooks and linked to electronic files by naming conventions described below. A MATLAB scripted analysis program will be used to analyze and compile data (e.g. miscibility phase diagrams), as recommended in E.T. Borer *et al.* 2009 "Some Simple Guidelines for Effective Data Management" *Bull. Ecol. Soc. Amer.* 90: 205-214. Other data analysis and compilation will be conducted with Excel spreadsheets. In cases in which typed text is generated through Microsoft Word and in which formatting is not important, text will be saved in an interoperable, nonproprietary .txt format. Based on previous collection of data of all types listed above, the estimated data to be collected during the funding period is 10 GB per researcher per year.

2. Physical and/or cyber resources and facilities (including third party resources) used to store and preserve the data after the grant ends.

Lab Notebooks: The lab will continue its current practices regarding lab notebooks. Specifically, researchers will record ideas, procedures, and observations by hand in bound lab notebooks with numbered pages. They will provide documentation meant to enable any colleague to repeat experiments, will identify who did what, will include dates of experiments, will use permanent ink, will attach inserts permanently, and will strike mistakes rather than erase them. As each notebook is filled, electronic .pdf copies will be made. The individual researcher will retain a copy of the .pdf for his/her personal records. The PI will retain a copy of the .pdf on laboratory computers and backups. All original notebooks will be surrendered to the PI when the researcher leaves the University, as is standard check-out procedure in the department. Original lab notebooks will be secured in the laboratory by the PI.

Theses/Dissertations: Student theses and dissertations include chapters and appendices with extensive methods descriptions and original MATLAB code. These documents are deposited with the University of Washington Libraries as public documents for wide dissemination via the WorldCat system.

Electronic Files: Each researcher (e.g., each PI, postdoc, graduate student, or undergraduate) will archive all of his/her electronic files from laboratory computers onto two external hard drives dedicated to only that researcher. As of 2013, those hard drives will be 3TB versions (currently priced at $130 each). Data backups will occur at least weekly, and will be confirmed by the PI at weekly group meetings. The PI will be responsible for securing hard drives in the laboratory. The University of Washington also offers 25 GB of HIPAA and FERPA compliant file storage to all students, faculty, and staff, which can be accessed at http://uw.edu/itconnect/wares/online-storage/skydrive-pro. Electronic files will be named with the following convention: Year-Month-Day_FirstInitials_Lastname_Title.

3. Media and dissemination methods to make the data and metadata available to others.

Publication in scientific journals will be used to archive data and results in an accessible manner. Whenever allowed by publishers, the lab will include metadata and raw data files in interoperable formats (e.g. micrographs as uncompressed .tif files) as supplementary materials of journal articles. Wide-scale data sharing and secondary use of data will be facilitated by submission of articles and supplementary materials to PubMed Central, ensuring public availability. Most journals in which the lab currently publishes already submit all articles to PubMed Central for free public access 12 months after publication. When the lab publishes in journals of the American Physical Society (e.g. *Phys. Rev. Lett.)* the lab will submit final versions of articles (without APS formatting) to PubMed Central without an embargo period, as allowed by APS copyright transfer agreements.

In the case that original MATLAB image analysis code is generated, commented source code will be provided to the public through the PI's webpage for non-commercial use under GNU Lesser General Public License or the GNU General Public License.

Data will be preserved for at least three years beyond the award period, as required by NSF guidelines.

4. Policies for data sharing and public access (including provisions for protection of privacy, confidentiality, security, intellectual property rights, and other rights).

This project will not involve the acquisition of either animal or human subjects data. No private data will be collected. In the case that intellectual property is developed during the grant period, it will be managed through the University of Washington (UW) Center for Commercialization, which will develop a disclosure document and a confidentiality agreement. Access to data will be granted upon request to the PI once invention disclosures and/or provisional patent filings are made in accordance with UW policies and procedures (http://depts.washington.edu/uwc4c/for-researchers/navigating-ip-policy/). Data will be then transferred to external researchers via Dropbox (www.dropbox.com), which provides free storage for up to 2GB of data. Data will, in principle, be available for access and sharing not longer than two years after acquisition. The UW also offers all students, faculty and staff a HIPAA and FERPA compliant conferencing program with features including online meetings, instant messaging, and virtual whiteboards. It can be accessed at http://uw.edu/itconnect/connect/conferencing/lync-online.

5. Roles and responsibilities of all parties with respect to the management of the data (including contingency plans for the departure of key personnel from the project).

The PI will assume primary responsibility for coordinating storage and access of data produced by all lab members. The PI has no plans to leave the University of Washington. Nevertheless, if the PI transfers to another institution, the grant and the corresponding responsibility for data management will transfer with the PI.

Lab members will acknowledge their role and responsibility in data management as follows. Lab members will read this supplement document, which will be posted at the lab. The first page of all lab notebooks will contain the signed statement "I have read the Laboratory Management Plan at http://whatever-the-lab-website-is.html and I agree to follow it. I have read E.T. Borer *et al.* 2009 "Some Simple Guidelines for Effective Data Management" *Bull. Ecol. Soc. Amer.* 90: 205-214 at www.nceas.ucsb.edu/news/2009/borer. I have read Chapter 5: Laboratory Notebooks in *At the Bench, a Laboratory Navigator* by Kathy Barker (Cold Spring Harbor Press, Cold Spring Harbor, NY, 2005), which is stored on the lab bookshelf. I will submit this laboratory notebook to be archived as a .pdf when I have filled it. Signed by: _____"