Reynolds Lab Notebook Policy

Your lab notebook is a legal document, and provides a clear record of your research in the lab. <u>It must be sufficient to enable anyone else in the lab to repeat your experimental results</u>. We keep our lab notebooks electronically using Benchling:
 https://benchling.com/organizations/reynoldslab/projects

Ultimately the best lab notebook organization is one that you can follow, regularly update, and that is understandable by your labmates and Kim. Individual lab notebook styles may vary, but here are a few important organizational rules to keep in mind.

- Within the Reynolds Lab group on Benchling, please organize your work by project. A project should represent a roughly publication-sized unit of work, the expectation is that graduate students might have 2-3 projects during their time in the lab.

- Remember that projects cannot be nested inside other projects, so once you create one the organization is there to stay. Do your best to set up a good organization from the outset.

- Give your project a very specific name. It should not be so general as to describe multiple current of future projects in the lab. Remember that it should stand the test of time – future lab members will need to be able to understand the goal of your work. Your project should be accompanied by a search-friendly description (keep in mind key words that folks might use to find your work).

- Within your project, include a base-level entry that is roughly equivalent to a README. This entry should have a few paragraphs describing the general goals of the project, and a table of contents referring to any subfolders. This base-level entry should be updated two times a year, in conjunction with annual planning meetings.

- Remaining entries within a project should be organized into subfolders. You may wish to have subfolders that correspond to particular techniques ("NMR of DHFR/LOV2 DL121 fusion", "Enzyme kinetics for DHFR"), or subproject ("cloning of DHFR thermal stability variants")

- Keep in mind that access/sharing is at the project level. If you and a lab mate are working together on something, it may make sense to create a new project for this collaboration.

- Include all the data!!! Don't leave out negative results, mistakes, or errors, just note them clearly. Did you mis-pour a sleeve of plates? Write it down. Did you protein prep crash? ABSOLUTELY write it down. Did you set up a PCR and then had no bands? ABSOLUTELY write it down. Failed experiments are invaluable in figuring out what works. It is hard to adequately convey exactly how important this is.

- Often lab members make paper/pencil notes while doing an experiment. Checklists on paper towels, handwritten protocol modifications, sticky notes, crystallography screening notes, etc should all be scanned/photographed and included. Please do not forget to capture relevant information about how your experiment was done.

- Time is an important and often overlooked aspect of experiments: particularly when making fitness measurements make sure to note when you put in overnights, when you started an adaptation step, etc.

- Record lot numbers for enzymes (including polymerase)

- Photographs/gel images should be labeled to indicate bands and relevant molecular weights.

- Much of the data collected in our lab requires additional computational analysis for interpretation. It is not necessary to include ALL of your data analysis in Benchling. However it is expected that you will include any graphs/tables or processed data that are necessary to interpret if your experiment worked. For example, Michaelis Menten progress curves and steady state parameter fits should be included. For a MiSeq experiment, you should include cluster density, fraction of reads passing filter, and a bargraph showing how reads are distributed amongst any multiplexed samples.

- The Benchling notebooks are exported and archived monthly on the BioHPC. Archived copies will be kept for at least five years, the cloud version will persist indefinitely