**Incorporating Rigor and Reproducibility into Core protocols and communications**

The NIH mandates addressing Rigor and Reproducibility in conducting biomedical research as the key to successful application of knowledge toward improving health outcomes. The UNC School of Medicine Office of Research Technologies would like to be a leader in best practices in research transparency, authentication of key biological variables and scientific rigor. As Shared Resource Facility Directors, it is our responsibility to:

1. Assure our users that the highest levels of practice of Rigor and Reproducibility are incorporated into each core facility.
2. Assist investigators to incorporate these best practices into their research
3. Assist investigators to incorporate this information into their grant proposals
4. Provide clear evidence to the research community that these practices are in place.

**What you can do:**

1. **Include a Rigor and Reproducibility page on your website.** Include links to resources for your user base to show that your core is adhering to best practices in your field and to assist investigators to enhance Rigor and Reproducibility in their research. Demonstrate transparency and assure reproducibility. For example: <http://www.med.unc.edu/flowcytometry/resources-2/guide-to-rigor-and-reproducibility-for-flow-cytometry-experiments>

For instance, there are guidelines for establishing best practices:

* Description of biological material with enough information to uniquely identify the reagents (for example unique accession number in repository), in particular for:
* Antibodies: also report source, characteristics, dilutions and how they were validated
* Cell lines: also report source, authentication and mycoplasma contamination status
* Animals: also report source, species, strain, sex, age, husbandry, inbred and strain characteristics of transgenic animals
* Consideration of sex and other relevant biological variables
* Statistical Analysis
* Transparency in reporting
* Data and material sharing
1. **Steer your users/investigators to the NIH page on Rigor and Reproducibility:** <https://grants.nih.gov/reproducibility/index.htm>
2. **Ask your customers how you can help them with experimental design, data analysis, publication and grant preparation to assure they are including all the most up to date best practices and relevant information.**

 Please let me know if you would like assistance in this process.

Best regards,

Nancy Fisher, Ph.D., Director, UNC Flow Cytometry Core Facility

Assistant Director for Core Development

Office of Research

**Resources:**

**Learn about the** [NIH Initiative to Enhance Reproducibility through Rigor and Transparency](http://grants.nih.gov/reproducibility/index.htm).  ([Video](http://grants.nih.gov/grants/policy/rigor/NIH_Policy_Rigor_For_Reviewers/presentation.html))

Principles and Guidelines for reporting preclinical research <https://www.nih.gov/research-training/rigor-reproducibility/principles-guidelines-reporting-preclinical-research>

Endorsements: <https://www.nih.gov/sites/default/files/research-training/initiatives/reproducibility/rigor-reproducibility-endorsements.pdf>

NIH Rigor and Reproducibility: <https://www.nih.gov/research-training/rigor-reproducibility>

NIH Grants and Funding page on Rigor and Reproducibility: <https://grants.nih.gov/reproducibility/index.htm>

Grant Application instructions: <https://www.nih.gov/research-training/rigor-reproducibility/updated-application-instructions-enhance-rigor-reproducibility>

<https://grants.nih.gov/reproducibility/index.htm#guidance>

Guidelines for Reproducibility of Biophysics Research (Biophysical Society) <http://www.cell.com/pb/assets/raw/journals/society/biophysj/PDFs/reproducibility-guidelines.pdf>

STRENDA guidelines: Standards for Reporting Enzymology Data: <http://www.beilstein-institut.de/en/projects/strenda/guidelines>

Guide to Rigor and Reproducibility for Flow Cytometry experiments: <https://www.med.unc.edu/flowcytometry/resources-2/guide-to-rigor-and-reproducibility-for-flow-cytometry-experiments>

**Get involved:** Association for Biomolecular Resource Facilities (ABRF) Committee for Core Rigor and Reproducibility (CCoRRE) <https://abrf.org/committee/committee-core-rigor-and-reproducibility-ccorre>