Tuesday Tips is a new outreach effort by OGCA. The idea behind *Tuesday Tips* is to convey tips, tricks and other helpful information around the area of research administration. Our goal is to post on (almost every) Tuesdays. If there is something you would like to see covered on *Tuesday Tips*, email: UAF-GCReATE@alaska.edu. For more Tips visit OGCA website.

Your One Page Guide to Rigor and Reproducibility

NIH developed a one-page guide to explain how to address rigor and reproducibility in your NIH application. This resource walks through each of the four key areas of scientific rigor, explaining how and where to address each area in your application. In addition NIH linked to additional resources in case you need more in-depth information on any of the four key areas. Click the image to download the guide as a PDF.

For additional information visit NIH's webpage on Rigor and Reproducibility. OGCA website: www.uaf.edu/ogca

Rigor and Reproducibility in NIH Applications: Resource Chart

NIH Grants Policy Website: http://grants.nih.gov/reproducibility/index.htm

NIH Website: https://www.nih.gov/research-training/rigor-reproducibility

4 AREAS OF FOCUS	WHAT DOES IT MEAN?	WHERE SHOULD IT BE INCLUDED IN THE APPLICATION?
Scientific Premise	The **scientific premise** for an application is the research that is used to form the basis for the proposed research question(s). Describe the general strengths and weaknesses of the prior research being cited as crucial to support the application. Consider discussing the rigor of previous experimental designs, as well as the incorporation of relevant biological variables and authentication of key resources. *See related FAQs, blog post	**Research Strategy** ➤ Significance
Scientific Rigor (Design)	**Scientific rigor** is the strict application of the scientific method to ensure robust and unbiased experimental design, methodology, analysis, interpretation and reporting of results. Emphasize how the experimental design and methods proposed will achieve robust and unbiased results. *See related FAQs, blog post, examples from pilots	**Research Strategy** ➤ Approach
Biological Variables	**Biological variables**, such as sex, age, weight, and underlying health conditions, are often critical factors affecting health or disease. In particular, sex is a biological variable that is frequently ignored in animal study designs and analyses, leading to an incomplete understanding of potential sex-based differences in basic biological function, disease processes and treatment response. Explain how relevant biological variables, such as the ones noted above, are factored into research designs, analyses, and reporting in vertebrate animal and human studies. Strong justification from the scientific literature, preliminary data or other relevant considerations must be provided for applications proposing to study only one sex. *See related FAQs, blog posts, article	**Research Strategy** ➤ Approach
Authentication	**Key biological and/or chemical resources** include, but are not limited to, cell lines, specialty chemicals, antibodies and other biologics. Briefly describe methods to ensure the identity and validity of key biological and/or chemical resources used in the proposed studies. These resources may or may not be generated with NIH funds and: • may differ from laboratory to laboratory or over time; • may have qualities and/or qualifications that could influence the research data; • are integral to the proposed research. The authentication plan should state in one page or less how you will authenticate key resources, including the frequency, as needed for your research. Note: Do not include authentication data in your plan. *See related FAQs, blog post	**Other Research Plan Section** ➤ Include as an attachment ➤ Do not include in the Research Strategy.

**This chart is based on general instructions for research grant and mentored career development applications. It should only be used as a guide. For all applications, please read the applicable Funding Opportunity Announcement (FOA) & Application Guide for specific instructions.