TIGER TIPS
RESOURCES FOR AUBURN RESEARCHERS

Updates on Addressing Rigor in NIH Applications

(Excerpted from "Open Mike" blog posted January 11, 2016)

As NIH moves ahead with implementing measures to enhance rigor, transparency and reproducibility in NIH-supported research, this article provides a brief update on these efforts, and highlight some important timeline changes for implementation in applications for institutional training grants (T), institutional career development awards (K12), and individual fellowships (F).

In October 2015, NIH announced updates to the application instructions and review criteria for most research grants and individual mentored career development awards. These updates instruct applicants to address **four key areas** NIH deems important for enhancing rigor and transparency in research: 1) the scientific premise forming the basis of the proposed research; 2) rigorous experimental design for valid, robust, and unbiased results; 3) consideration of relevant biological variables; and 4) authentication of key biological and/or chemical resources. Dr. Michael Lauer's October 30, 2015 blog post, "Bolstering Trust in Science Through Rigorous Standards," describes the rationale behind the changes and the steps NIH has taken to engage the community in these efforts.

For the January 25, 2016 application due dates, the updates apply to most NIH research grant applications, with some exceptions, as described in the October NIH Guide notice. NIH also announced requirements to address rigor in individual mentored career development award applications submitted after January 25, 2016. In addition, Research Performance Progress Reports (RPPRs) for these programs must also address rigor if they are submitted **on or after January 25**.

As you consider how to address rigor in your NIH applications, NIH has a number of resources that should help along the way. Your first stop should be the NIH Office of Extramural Research (OER) web page on rigor and reproducibility, which links to a variety of resources from OER, and across NIH. For example, you might want to watch the NIH Staff Training Module. While this tutorial was initially created for NIH program officers and scientific review officers, it provides lots of content that would be useful to you too – including a general policy overview on rigor and transparency, as well as updates on the changes to the NIH grant applications and review language.

NIH has also recently extended the timeline for implementing rigor and transparency policy changes for institutional training grants, institutional career development grants, and individual fellowships. NIH recognized that applicants to these programs would require significant time and resources to design substantive instructional plans and new curricula to ensure the in-depth training in rigorous experimental design for trainees and fellows. This is especially true given the breadth of different training and career development programs funded across NIH. **As early as fiscal year 2017**, NIH will be asking applicants to include plans for instructing trainees and fellows in rigorous experimental design (stay tuned for future NIH Guide notices). As you start to think about future applications, you may wish to review some different approaches for addressing experimental design and reproducibility in curricula and training. For example, NIGMS recently issued a

funding opportunity to support the development of "Training Modules to Enhance Data Reproducibility." You can review summaries of the awarded projects on NIH RePORT. NIGMS has also compiled award abstracts describing predoctoral training curricula on their website. NIH also recognize that each grant application will need to develop specific instructional material that matches the specific area of training and research.