

# Discussion Topics

## Electronic Grant Application Submission

### January 8, 2003

#### Background

NIH is looking to move to a more electronic grant administration process. A major portion of this process is application submission and peer review. This meeting is intended to extract opinions from both sides, your role as a PI and your role as a reviewer. Keep in mind what may be an advantage for one role might be a disadvantage for the other. We need to strike a fair balance between the two.

This meeting will be a free form exploration of how an electronic format can enhance the application and review processes. Due to the time restrictions, we will want to concentrate on the areas listed below. Please read over these and start to mull over how you feel about them, keeping in mind both of your roles.

#### Issue #1: Non-ASCII characters in the grant application title and abstract

The abstract portion of the grant application forms a summary of the scope of the proposed research. The NIH staff use it as one means to refer the application to a specific IRG, and to assign it to a specific IC. An additional important use of the abstract is that if the application is funded the abstract is entered into the publicly available CRISP database. NIH Staff in the Office of Research and Analysis process the abstract to create index terms (based on the CRISP thesaurus) and correct any obvious grammatical errors.

Current policy limits the text in the application title and the abstract to only ASCII characters: no Greek letters, mathematical equations, images, or so-called “rich” text is permitted.

We are now revisiting this policy, and considering as we prepare for the receipt of electronic applications, whether the title and abstract should be allowed to include non-ASCII characters.

**Question #1:** In your role as a *reviewer* of NIH grant applications, would the inclusion of non-ASCII characters in the title, and “rich” text in the abstract improve your ability to assess the merit of the application? Would it create problems?

In your role as an NIH grant *applicant*, would you see it as a benefit to be able to include non-ASCII characters? If so, what limits should apply: figures or halftones in the abstract; mathematical formulae; graphs?

#### Issue #2: Use of percent effort values in the application

The requirement for statement of percent effort for the PI and key personnel (% effort for all personnel is listed in the budget) serves two distinct purposes in the grant application. It allows the reviewers and NIH program staff to determine if there will be sufficient commitment of effort to justify the scope of the research (aims and budget). NIH grants management staff requires percent effort values to ensure that the budget is within policy guidelines.

The concern that has been expressed by grantee organizations relative to stating an exact value for percent effort as part of the application is that the number can change significantly between the time the application is submitted and when an award is made. Grantee institutions are reluctant to be held to a specific value at the time of submission, and so argue for alternative procedures.

**Question #2:** In your role as a *reviewer* of NIH grant applications, how significant an issue is it that the value for percent effort stated on the application may not be accurate relative to what the PI or other key personnel will actually devote to the research? Aside from this issue, is the inclusion of a percent effort value in the narrative budget justification (as opposed to the budget table) sufficient for reviewer purposes?

In your role as an NIH grant *applicant*, how do you participate in the calculation of the percent effort value that appears on your application? What is the process whereby the value is changed after the application has been submitted? As an applicant how do you feel you could best convey in the application your intended percent effort while still maintaining needed flexibility?

### **Issue #3: Content and format of Biosketch**

The biosketch portion of the grant application offers the reviewers a summary of the capabilities and productivity of the PI. Currently, the biosketch can be up to 4 pages: two pages devoted to career accomplishments of the PI, and up to two pages to provide a list of publications chosen by the PI to demonstrate their productivity in areas relevant to the scope of the proposed research.

The biosketch has come under discussion, leading to questions relevant to reviewers and applicants.

**Question #3:** In your role as a *reviewer* of NIH grant applications, how important is it for you to see consistent content and format in the biosketch? So long as the 4-page limit was maintained, would it be satisfactory to allow the applicant to provide whatever content they wish to demonstrate their capabilities and productivity? Exclusive of content, what about format? Would it be satisfactory to allow the applicant to choose whatever format they prefer, as opposed to a fixed format?

In your role as an NIH grant *applicant*, how strongly do you feel you should be able to freely define the content and format of the biosketch portion of the grant application? In the same way that you can customize your curriculum vitae, would you not feel similar about customizing the biosketch, since it serves a similar purpose as your curriculum vitae?

### **Issue #4: Black and white versus color images within grant applications**

NIH's formal policy is that applications should be submitted in black and white: color images are not formally recognized. At the same time, the PI can submit color images for distribution limited to the primary and secondary reviewers: all other copies of the color images are rendered in black and white for distribution to other members of the study session.

Submission of electronic applications should allow inclusion of color images without limitations associated with making color duplications. At the same time, the absolute color or quality of images displayed on any two computer monitors cannot be controlled. The color balance and resolution cannot be prescribed as different reviewers view the application. Given these benefits

(the ability to easily generate multiple copies of color images) and limitations (lack of absolute control of image color or quality), several questions arise.

**Question #4:** In your role as a *reviewer* of NIH grant applications, should the submission of color images be generally acceptable as part of the grant application process? How important have you found the exact color of images or portions of images to be as part of the review process? Should subtle differences in color be the basis upon which preliminary results determine the feasibility of the research plan? If so, what means should be allowed to ensure uniform quality of color images? Should special procedures be in place to allow primary and secondary reviewers to evaluate images with guaranteed quality (e.g. by submission of hard copy color images), while other reviewers evaluate images of potentially lesser quality?

In your role as an NIH grant *applicant*, should the electronic submission of color images be allowed? How important to your application are clear differences in color as part of images? What about relatively subtle differences in color? If you consider the introduction of color differences to be important, what means should be allowed to ensure the quality of the color images? Similar to the current practice, should the NIH allow submission of hard copy versions of color images to guarantee accuracy of color at least for primary and secondary reviewers?

### **Issue #5: Submission of appendix materials**

The current grant application process requires that all appendix material accompany the application at the time of submission. Appendix material typically includes manuscripts, preprints or journal reprints that are included to support the proposed research, and color images. All appendix material received must be routed along with the research proposal through the receipt and referral process at the NIH, to be delivered to the SRA so that the material can be made part of the review.

Planning for electronic submission suggests several ways of streamlining the submission of appendix material. The submission of electronic copies of relevant documents seems an obvious possibility. Lack of technical standards for the electronic submission of information other than text, however, must be considered.

**Question #5:** It would seem the only downside to receiving appendix material electronically would be that at least initial viewing would be “on screen.” Rendering the material as hard copy would become a task for the reviewer. In your role as a *reviewer*, what do you feel are the benefits and shortcomings of receiving textual appendix materials electronically?

In your role as an NIH grant *applicant*, what do you see as the benefits and shortcomings of being able to submit textual appendix materials electronically?

### **Issue #6: Receipt deadlines for electronic grant applications**

As IT architects and designers plan for receipt of electronic applications, one of the most difficult activities to address is receipt of up to 10,000 applications around a fixed deadline. Of course the capacity of the eRA system can be planned accordingly, with hopes that assumptions as to processing time are within limits such that the system doesn't fail. We currently get a maximum of about 5,000 applications for any one of the fixed deadlines. For approximately 16,000 to 18,000 applications a round, we have seven set deadlines. The approximate numbers of applications received around each of the deadlines is listed below:

- T32s: a few hundred applications
- AREA: a few hundred applications
- New R01 applications: 5000 or more
- Revised R01s, Type 2: 7000 or more
- Small Business: up to 2000
- Fellowships: generally about 1000
- AIDS: a few hundred applications
- Special Receipt dates for RFAs, PARs: scattered throughout, may be six or more a day, numbers vary.

As an alternative to building the IT system to anticipate workload, one could consider adjusting the deadlines for application receipt as a way to reduce any likelihood of system failure due to overloading. Adjusting deadlines in some way also offers the possibility of incentives to encourage electronic submission.

You may want consider the tradeoffs that would be necessary to take advantage of electronic submission to decrease the turnaround time of grant application review.

**Question #6:** In your role as an NIH grant *applicant*, what would you consider a reasonable alternative to a fixed receipt deadline? It is critically important that as you reflect on this question you consider the workflow process in place at your institution over the last days/hours/minutes prior to the application being sent. What would you consider reasonable incentives that could entice you and your institution to opt for electronic submission over a fixed deadline for paper-based submission?

Another topic that we probably should discuss is corrections, additions, changes, etc. to applications after they have been received: the “I sent my application and then I looked at it” group. Please consider the likelihood and frequency of post-submission corrections as you consider alternatives to a fixed deadline.

In your role as an NIH grant *reviewer*, do you see issues around alternatives to a fixed receipt deadline? For example, are there implications that regard corrections, additions, changes, etc., that you may receive electronically on very short notice relative to the study section meeting?

## **Issue #7: Confidentiality of cover letters**

Currently, the PI may include a cover letter with the grant application. The content of the letter may recommend assignment of the application to a specific NIH IC, or referral to a specific study section. Alternatively, it may contain a plea on the part of the PI that the application not be reviewed by a particular individual due to perceived bias. Submission along with the electronic application of the electronic equivalent of the cover letter will be possible. Several questions come to mind.

**Question #7:** As an NIH grant *applicant*, regardless of how the cover letter is addressed, what are your current expectations with regards to the confidentiality of the cover letter? Is it presumed that content will held in the confidence of the SRA, if, for example, the letter speaks of the possibility of reviewer bias? Should the inclusion of cover letters be replaced with standard user

interface fields that allow for optional recommendations for IC or IRG? What precautions, if any, do you feel should be built into the eRA system to ensure confidentiality of this type of information?