

by Karen Young Kreeger

PROFESSION

Winning, Managing, and Renewing Grants

"Before all else fails, read the instructions"

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They say it's a publish-or-perish world in science, but how can you stay alive if you don't have any support? With grant proposal return rates at all-time highs for many granting bodies, how can you make your proposals pass muster, let alone sing? "It's the very simple things that can cause an application to fail," says **Jackie Roberts**, manager of career resources at the Federation of American Societies of Experimental Biology. "Read the instructions. Read the instructions. Read the instructions. Then finally, read the instructions," she jokingly cautions.

Common mistakes like too many pages, too small a font size, wrong forms, too long a title, not enough copies, as well as misspelled and incomprehensible text are some of the most basic reasons why proposals are returned, say grant-writing specialists.

"Follow the guidelines," agrees **Don Frazier**, a professor of medicine and biomedical engineering at the University of Kentucky in Lexington and a principal investigator on the University of Kentucky Interactive NIH Grant Writing Program, an Internet-based grant-writing program for faculty at minority-serving institutions. "The guidelines are written by reviewers," adds Frazier, who himself has been a grant reviewer for the National Institutes of Health.

The acceptance rate for NIH grants is 20 percent to 40 percent, depending on the individual institute, notes Frazier. For those investigators with reasonably high scores to begin with and who address the reviewers' criticisms and then resubmit, he says, "their chances go up remarkably well," by 50 percent to 60 percent. "Bad news can lead to good news."

Locating Opportunities

All of this is well and good, but you need to find what's out there first. Thanks to the Web and E-mail, over the last few years a few free and subscription-based grants alert systems have cropped up for scientists and grant administrators (see Resources). One is ScienceWise, where scientists, engineers, and mathematicians receive E-mail alerts based on keywords regarding Requests for Proposals listed in the *Federal Register*, *Commerce Business Daily*, at NIH, at the National Science Foundation, and with private and corporate foundations, among others. *ScienceWise* also has another grants-alert feature that sends out notification about Small Business Innovation Research, or SBIR, grants given by 10 federal agencies.

"The Internet has changed the administration of grants tremendously," says **John Rodman**, president and CEO of *ScienceWise*. "It's changed finding grants, writing grants, everything but doing the science." Before starting *ScienceWise*, Rodman was director of research at Southern Illinois University and the University of Texas, Dallas.

Other one-stop grant shopping sites or grants-alert services include ones at the Community of Science and GrantsNet Web sites. "I would recommend using all of these sources," says Frazier. "The better you can research opportunities, the better chances you'll have. You'd be amazed at what's out there."

Grant administrators also recommend that researchers check in with their respective offices of sponsored research. Oftentimes they employ a full- or part-time grants-information specialist who is in charge of staying on top of grant opportunities.

Frazier adds: "You should also be prepared to submit ideas to more than one place. This is only a conflict when something great happens."

Write to FIT

Help for grant writing abounds. Books and videos, as well as special sessions at professional meetings, on-campus brown-bag seminars, and summer classes on how to pen a winning proposal all provide great advice.¹ One of those services is the University of Pittsburgh's Survival Skills and Ethics Program, codirected by **Beth Fischer** and **Michael Zigmund**, a professor of neuroscience at Pittsburgh. The

program is a series of eight one-day workshops per year. One of those eight concentrates on grant writing. Fischer's main advice for researchers: Develop good writing skills and develop a proposal that "FITS":

- * One that **F**ills an important gap in knowledge.

- * One that is **I**nteresting to you, your field, and the funding agency. For this, she advises, researchers need to tailor their ideas to the mission of the granting agency.

- * One that **T**ests a hypothesis. "Descriptive, 'fishing-expedition' types of proposals are not viewed as highly as experimental, hypothesis-driven ones. "Reviewers want to see a testable hypothesis," says Fischer.

- * One that has a **S**hort-term, attainable goal, but that also meshes in with the granting agency's long-term goals. "Don't promise that you'll cure cancer in three years," notes Fischer. "Carve out a small part that contributes to that." She adds that reviewers do need evidence of the proposed experiments' feasibility within the suggested timeframe. "A common mistake of young investigators is that they promise the world." Fischer also lists other important pieces of advice. "One is called The Christmas Tree Effect--if one light goes out, they all do," she explains. If an investigator proposes one experiment that all the rest hinge on, then the grant needs to include a contingency plan if that keystone experiment fails.

What if the results turn out to be ambiguous or inconclusive? Fischer says that proposals also need to include a back-up plan of what to do next: "Show that you have thought of the possible outcomes and have a plan." And by all means, she says, "get a second, third, or fourth set of eyes to review the grant, but allow for the time to do that."



Lynne Chronister advises grant seekers to

make contact with the sponsors, in addition to filling out the paperwork.

Stay in Contact

What **Lynne Chronister**, director of the office of sponsored projects at the University of Utah, Salt Lake City, does is reasonably typical across academia. Her office is responsible for helping faculty to locate funding opportunities, make contact with sponsors, navigate the proposal-writing process, especially with items such as the budget pages, negotiate terms after a grant is awarded, and establish an account for grants. The most important piece of advice Chronister has for grant writers is: "Make contact with the grant sponsor. When you skip to just putting in the proposal then the success rate is a bit lower." Grant administrators at foundations can tell you what's already been funded, the direction of what the organization wants to fund in the case of private foundations, and emerging topics of interest.

Fischer agrees: "People assume it's cheating, in fact it's the opposite."

Program officers want the best portfolio of grants for their organization. "They can give advice for targeting ideas and common pitfalls."

Offices of sponsored research and grant administrators also are helpful in grant renewal and management.

Regarding managing grants, grant-writing specialists say to make use of the granting agency or organization's website-- check to see what you can and can't do with the

money. When in doubt, again check with a grant administrator. Regarding renewing grants, the main focus is that you have to actually have demonstrated that you did what was originally proposed, says Roberts. "You need to show progress and evaluation. NIH is looking for accountability."

Try, try again seems to be the grant-writing mantra. "Take the advice

Resources

Community of Science
www.cos.com

GrantsNet
www.grantsnet.org

Office of Sponsored Projects at the
University of Utah
www.osp.utah.edu

ScienceWise
Sciencewise.com

Survival Skills & Ethics Program
www.edc.gsph.pitt.edu/survival/home.html-ssi

University of Kentucky Interactive NIH
Grant Writing Program
dlmedia.uky.edu/topclass/

that comes from reviewers' critiques," says Frazier. "Successful grant writing is a matter of perseverance and a thick skin."

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1. Stephen P. Hoffert, "Proposal writing services give researchers a competitive edge," *The Scientist*, Jan. 19, 1998.