

Editor-in-Chief: Floyd E. Bloom
Editor: Ellis Rubinstein
Managing Editor: Monica M. Bradford
Deputy Editors: Philip H. Abelson (*Engineering and Applied Sciences*); John I. Brauman (*Physical Sciences*); Thomas R. Cech (*Biological Sciences*)

Editorial

Assistant Managing Editor: Dawn McCoy; **Senior Editors:** Eleanor Butz, Gilbert J. Chin, R. Brooks Hanson, Pamela J. Hines, Barbara Jasny, Katrina L. Kelner, Paula A. Kiberstis, Linda J. Miller, L. Bryan Ray, Phillip D. Szurmi, David F. Voss; **Associate Editors:** Beverly A. Purnell, Linda R. Rowan; **Letters:** Christine Gilbert, *Editor*; Steven S. Lapham, *Associate Editor*; Charlene King, *Assistant*; **Book Reviews:** Katherine Livingston, *Editor*; Jeffrey Hearn, *Editorial Assistant*; **Editing:** Cara Tate, *Supervisor*; Erik G. Morris, *Senior Copy Editor*; Jeffrey E. Cook, Harry Jach, Joshua Marcy, Christine M. Pearce; **Copy Desk:** Ellen E. Murphy, *Supervisor*; Joi S. Granger, Abigail Hollister, Janet Miller Rife, Beverly Shields; Kameaka Williams, *Assistant*; **Editorial Support:** Carolyn Kyle, *Editorial Assistant*; Andrew Goldstein, Josh Lipicky, Diane Long, Patricia M. Moore, Ted Smith, Anita Wynn, *Manuscript Assistants*; **Administrative Support:** Sylvia Kihara, Brent Gendelman; **Computer Specialist:** Roman Frillarte

News

News Editor: Colin Norman; **Features Editor:** Tim Appenzeller; **Deputy News Editors:** Betsy Carpenter, Elizabeth Culotta, Jean Marx, Jeffrey Mervis; **News & Comment/Research News Writers:** Linda B. Felaco (copy), Constance Holden, Jocelyn Kaiser, Richard A. Kerr, Andrew Lawler, Eliot Marshall, Elizabeth Pennisi, Robert F. Service, Erik Stokstad (intern), Gretchen Vogel; **Bureaus:** Berkeley, CA: Marcia Barinaga; San Diego, CA: Jon Cohen; Chicago, IL: James Glanz; Boston, MA: Wade Roush; **Contributing Correspondents:** Barry A. Cipra, Ann Gibbons, Charles C. Mann, Anne Simon Moffat, Virginia Morell, Gary Taubes, Ingrid Wickelgren; **Administrative Support:** Scherraine Mack, Fannie Groom

Production & Art

Production: James Landry, *Director*; Wendy K. Shank, *Manager*; Elizabeth A. Harman, *Assistant Manager*; Daniel T. Helgerman, Vicki J. Jorgensen, Cynthia M. Penny, *Associates*; Leslie Blizard, *Assistant*; **Art:** Amy Decker Henry, *Director*; C. Faber Smith, *Associate Director*; Katharine Sutliff, *Scientific Illustrator*; Holly Bishop, Elizabeth Carroll, Preston Morrighan, *Graphics Associates*; Patricia M. Riehn, *Graphics Assistant*; **Technology Manager:** Christopher J. Feldmeier

Science International: Europe Office

Editorial: Richard B. Gallagher, *Office Head and Senior Editor*; Stella M. Hurtley, Julia Uppenbrink, *Associate Editors*; Belinda Holden, *Editorial Associate*; **News:** Daniel Clery, *Editor*; Nigel Williams, *Correspondent*; Michael Balter (*Paris*), Patricia Kahn (*Heidelberg*), *Contributing Correspondents*; **Administrative Support:** Janet Mumford; Anna Sewell; **Asia Office:** Japan News Bureau: Dennis Normile; China Representative: Hao Xin

ScienceNOW: <http://www.sciencenow.org>

Editor: Richard Stone

Science's Next Wave: <http://www.nextwave.org>

Editor: John Benditt; **Associate Editors:** Nicole Ruediger, Wendy Yee

Richard S. Nicholson
Publisher

Beth Rosner
Associate Publisher

Michael Spinella
Membership/Circulation Director

EDITORIAL

Rethinking Grant Peer Review

I and other members of the Society for Glycobiology were recently sent a letter marked "URGENT—IMPORTANT—PLEASE RESPOND" from the society's president, Ajit Varki, bemoaning the fact that the number of reviewers with expertise in glycobiology serving on National Institutes of Health (NIH) Initial Review Groups (IRGs) has rapidly diminished, and that potential reviewers in the scientific community at large are simply refusing to serve on IRGs when asked. This has created a significant problem for NIH's Division of Research Grants in assigning glycobiology-related grant applications for review. The plight Varki brought to our attention (astutely, I believe) is not peculiar to the glycobiology community nor to the IRGs charged with reviewing glycobiology-related grant applications. IRGs throughout the various branches of NIH are faced with the perennial and increasingly difficult problem of how to attract "the best and the brightest" to serve on IRGs, thereby maintaining a high and broad level of expertise for review of the thousands of grant applications submitted each year.

It is no wonder that many researchers lack the desire to serve as regular members of IRGs. Such service requires a substantial commitment of one's time, typically over a 4-year period, which can detract substantially from one's research productivity as well as compromising one's time for other pursuits. In addition, the lack of remuneration for one's labors is a negative incentive. Faced with the prospect of either serving on an IRG or spending an equivalent amount of time as a professional consultant to the pharmaceutical or biomedical industry, many researchers undoubtedly would choose the more financially rewarding option. Adding salt to the wound, so to speak, many reviewers find that their own grant applications do not fare well in the peer review system after they have completed such service. Finally, although serving on an NIH IRG used to be considered quite an honor, membership in this elite corps can also bring with it the status of pariah in the eyes of those whose applications are not approved for funding.

Faced with the inability to recruit established investigators, the scientific review administrators of some IRGs have resorted to recruiting relatively unseasoned, though arguably bright and talented, individuals (such as recently appointed assistant professors) who have little experience in the peer review system, including the unparalleled exhilaration (!) of submitting their own competitive renewal applications. Although this practice may lessen the reviewer shortage problem, it is not only unwise but unfair, both to the reviewers and to the grant applicants. The applicants are not served well by such novice (and typically hypercritical) reviewers. Likewise, unseasoned reviewers should not be burdened by the time-consuming chore of grant review; rather, they should be given the time and resources to foster the development of their own research careers.

I offer the following solution to this dilemma: Provide the chosen reviewers with a year of federal grant support for every year of IRG service, equivalent to the average of yearly direct-cost support for grants funded over the time of service. A person chosen to serve on an IRG because of his or her expertise and stature surely merits such support. The criteria for service on an IRG should be adjusted so that only researchers who have been awarded a minimum of two full grant cycles of funding (that is, an initial award and a competing renewal) will be considered eligible for service. In addition, the term of service should be no more than 3 years (4 years is almost punitive). However, such service would then make one ineligible to serve again, for a period of no less than four full cycles (12 years) from the date of service termination.

There is apparently no lack of competent, eligible reviewers—only of willing ones. Not only will the proposed modification of the peer review system solve the present reviewer shortage crisis, it will improve the quality of IRG panels. How to deal with the throngs of would-be reviewers vying for selection to IRGs may pose a heretofore unencountered problem, but I submit that such a problem is far less dire than the current one.

Steven J. Fliesler

The author is a professor in the Department of Ophthalmology and the Program in Cell and Molecular Biology at the Saint Louis University School of Medicine, St. Louis, MO.