

## In This Issue

- [Enhancing Peer Review Update](#)
- [New Order to Reviews Start in Spring Meetings](#)
- [Challenge Grant Applications Challenge CSR](#)
- [NIH to Extend Anytime Submission of Grant Applications to More Reviewers](#)
- [CSR Acts to Protect Reviewer Identity on Small Review Groups](#)
- [Study Section Chairs Rate CSR Orientations](#)
- [New Grant Mechanism Seeks to Spur Transformative Science](#)
- ['The Rocket Boys of NIH' – CSR Releases New Children's Book](#)

## Enhancing Peer Review Update



### Thanks from CSR Director

NIH is on the brink of historic changes that aim to enhance its peer review and grants systems. This effort is massive and would not be possible without the dedication of many—both behind the scenes and on the front lines.

Big thanks go to our reviewers for their active support, and to the thousands of people in the scientific and NIH communities who labored together to develop these

changes, ensuring that NIH funds the best science by the best scientists with the least amount of administrative burden.

Special thanks go to all the reviewers who are helping us review the thousands of applications seeking funds provided by the American Recovery and Reinvestment Act.

The promise of all these opportunities is now in the hands of our reviewers and chairs. On behalf of NIH, we thank you for your commitment, expertise and generosity. Your efforts are vital to the advancement of science and health. The decisions you help us make—to fund thousands of new research grants—will one day touch countless people here and abroad.

### Exciting Changes This Round

- There's a new 1 to 9 scoring system, scores for each core review criterion and the overall impact, and a more focused critique template.
- The wording and the order of the review criteria have been changed to emphasize the possible impact of proposed research.
- CSR reviewers will review applications in the order of their preliminary overall impact scores to better calibrate final overall impact scores and facilitate decisions on which applications will not be discussed.

## NIH and CSR Launched Multiple Outreach Efforts to Help Reviewers, Chairs and SROs

- The Enhancing Peer Review Web Site has many resources, including a Web page and video on “What Reviewers Need to Know Now,” “Frequently Asked Questions,” and “New Guidelines for Reviewers.” Access it at <http://enhancing-peer-review.nih.gov/>.
- CSR’s Director held training sessions for more than 300 study section chairs in 12 cities.
- Scientific Review Officers (SROs) have participated in multiple training sessions, which have supported their valiant efforts to prepare their reviewers and chairs.
- Senior CSR staff members will attend every study section meeting in this round to answer questions.

**What’s next?** NIH is working to shorten applications for R01s and some other grant applications. It is also working to restructure the applications to align them with the review criteria. This alignment should help both applicants and reviewers focus better on the significance and impact of the proposed research project. NIH will release and post notices of these changes well in advance to prepare applicants and reviewers. NIH plans to implement these changes in 2010.

**NIH welcomes your questions and suggestions on these changes.** Send an e-mail to the following address: [EnhancingPeerReview@mail.nih.gov](mailto:EnhancingPeerReview@mail.nih.gov).

## New Order to Reviews Starts in Spring Meetings



This spring, CSR review groups will start reviewing grant applications based on their preliminary scores, from best to worst. By ordering reviews in this way, we hope to focus discussion on the most promising applications and improve the calibration of scores so applications of similar (perceived) impact can be compared more directly to help reviewers distinguish between them. Forty-two pilots of this practice conducted over the past two rounds have gone well, with reviewers giving it their support.

Ordered reviews also will facilitate decisions on which applications should or should not be discussed. Once the panel has discussed approximately 50 percent of the applications, they will decide if there are any others worth discussing. If not, the rest will not be discussed, but applicants will still receive critiques from the assigned reviewers as well as their preliminary scores for each of the core review criteria. There is no longer the need to “unscore” at the beginning of the meeting.

Using this system requires that reviewers plan on attending the entire meeting, because they will not have sufficient advance knowledge on where their applications will fall in the review order.

## Clustering Reviews

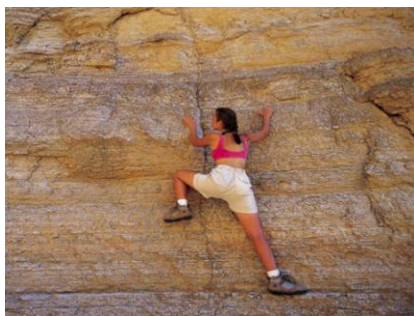
At the same time, CSR review groups will expand the practice of clustering the review of certain types of applications. When applications are clustered, they will be reviewed in the order described above.

One of the key NIH-wide changes in peer review is to cluster the reviews of R01 grant applications from new investigators and conduct these reviews first. New investigator applications will include those from investigators now known as “Early Stage Investigators,” who generally are within ten years of completing their terminal research degree or within ten years of completing their medical residency.

**Clustering encourages reviewers to evaluate these applications on a more level review field,** given that new and early investigators may have less preliminary data and experience than more senior researchers. Clustering these reviews ensures that at least 50 percent of these applications are discussed so NIH can meet its goal of supporting new investigator applications “at a success rate equivalent to that of established investigators.”

NIH study sections will also continue to cluster clinical applications and those for other grant application activity codes when appropriate, depending on the number of applications.

## **Challenge Grant Applications Challenge CSR**



CSR received about 20,000 applications for new Challenge Grants, which will be funded by the American Recovery and Reinvestment Act. This more than doubles the number of applications CSR typically reviews in a review round.

Because NIH must award the Challenge grants before the end of September, these applications have to be reviewed in half the usual time. To meet this goal, CSR will review these applications in two-phase, “editorial-board” reviews. Over 15,000 extra reviewers in the specialized fields have been

recruited to do the first phase reviews. Their mail reviews and the applications will be further assessed by one of about 30 study sections made up of experienced scientists who will re-review the science but also focus on overall significance and impact.

**Unprecedented numbers:** Overall, CSR typically reviews 16,000 applications with the help of about 8,000 reviewers in each of the three main yearly review rounds. This round, CSR will rely on over 23,000 reviewers to assess about 36,000 applications.

**Other Applications:** NIH also has received about 1,600 applications for Competing Revisions for April deadlines. These applications will be reviewed in CSR and the other Institutes/Centers depending on where the parent grant was reviewed. All of the applications reviewed in CSR will be assessed in Special Emphasis Panels, which are often held at the end of already scheduled study section meetings. More applications for Recovery Act funds are coming in and will be reviewed by CSR and other NIH Institutes/Centers later this year.

**“These are exciting times for biomedical research and NIH,”** said CSR Director Toni Scarpa. “Our referral staff has done a tremendous job directing the flood of applications to the right review groups. And our Scientific Review Officers and their staff are unsung heroes, managing twice as many applications in a very compressed time with great professionalism and excellence. It was a formidable mission, but they are accomplishing it against all odds.” The response by the scientific community also has been tremendous. “We are humbled by the generosity of all those who said ‘yes’ to our appeals for help. Scientists in the U.S. and abroad have signed on,” said Dr. Scarpa. “The international help is particularly gratifying because it shows the value and respect that scientists around the globe have for NIH peer review.”

**Get more information on NIH Challenge Grants** and the other key efforts funded by the American Recovery and Reinvestment Act: <http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-09-003.html>.

## NIH to Extend Anytime Submission of Grant Applications to More Reviewers



By this summer, reviewers who have review service records equivalent to regular members of chartered study sections will be able to submit many of their grant applications anytime in the review cycle to reduce the burden they often have in preparing their own grant applications while reviewing others.

NIH will extend the privilege now given to regular members of chartered study sections to other reviewers who serve six times in 18 months. Since February 2008, chartered study section members are able to submit at any time R01, R21 and

R34 grant applications that would otherwise have standard due dates.

Setting the service cut-off at six meetings in 18 months means that roughly 1,500 CSR reviewers could submit qualifying grant applications on a flexible schedule, which we believe is manageable and unlikely to overwhelm the system. We hope to iron out the technical details by this June. NIH then will release an *NIH Guide* notice with more details, and we will begin publishing an annual listing of qualified reviewers.

**Learn about current policy here:** <http://cms.csr.nih.gov/NewsandReports/NewFlexReviewers.htm>.

## CSR Acts to Protect Reviewer Identity on Small Review Groups

Posting rosters of small Special Emphasis Panels (SEPs) online made it too easy for applicants to identify scientists who may have reviewed their applications.

For rising researchers serving on small SEPs, this situation created professional risks. A powerful applicant who didn't like a review, could exact career-altering retribution.

"The possibility that reviewers may be identified easily led us to act," said CSR Director Toni Scarpa. "We need to protect their identities." Doing so will also protect the integrity of peer review, because it will help ensure that reviewers don't shy away from being critical of applications submitted by leaders of their fields.

**Rosters for small SEPs in an Integrated Review Group (IRG) now will be consolidated** into a larger IRG list that dilutes the possibility of tying a reviewer to a specific SEP.

Objective review, free of inappropriate influence, is the hub of the peer review wheel that keeps science moving on the road to medical breakthroughs. Software changes are underway now to consolidate the roster names on summary statement templates.

## Study Section Chairs Rate CSR Orientations

Study section chairs give good scores to CSR's national meetings offering a vital peer review overview and updates on upcoming changes. CSR set the meetings to clarify chair policies and sound practices and provide a rare networking opportunity for chairs to share their experiences.





“I didn’t know how important our role could be in helping guide the [review] group,” said Dr. Marie “Tonette” Krousel – Wood, director of the Center for Health Research at the Ochsner Clinic Foundation and epidemiology professor at Tulane University.

“It reinforced our role as chairs in facilitating appropriate discussion and not letting it drag on. This kind of dialogue and training helps ensure consistency of scores and builds confidence in our role.”

**More than 300 chairs have participated in regional chair meetings in a dozen cities.** This past January, CSR held meetings in San Francisco, San Diego, Chicago, Nashville and Philadelphia to reach new chairs. The goal was to reinforce their critical roles and responsibilities, to answer questions on the many changes in peer review and to stress the role they serve as partners in the review process. CSR held more in seven cities during April and May for additional chairs. At the request of some other NIH institutes and centers, we also provided training to chairs who serve of some of their review groups.

“This is long overdue,” said William Balke, from the University of Kentucky. “It will go a long way in improving the overall quality of the CSR review process.” Like many chairs, he suggested some improvements, such as “mobilizing successful chairs as ‘mentors’ for new chairs as a way of amplifying and reinforcing ‘best practices.’”

**Other chairs said the meetings gave very useful information** and allowed them to connect with their colleagues to share experiences. They discussed approaches to focusing discussion on scientific and health impact, summarizing discussion, and elucidating outlying viewpoints that might lead to out-of-range scores in order to enhance robust discussion without forcing consensus.

“It was good to hear how various decisions were made in the peer review [enhancement] initiative,” said Dr. John Schulenberg, psychology professor at the University of Michigan. “The best thing was the chance to talk to chairs about their committees and compare notes. I’d never been in a forum where I could do that.”

**Insight into the role of SROs:** Schulenberg also said that he “learned that regardless of the changes that happen, it all comes down to the work of SROs and how good they are. They are phenomenal and [connect] CSR with the community. The session gave me even more respect for SROs.”

Dr. David Sibley of the Washington University School of Medicine said he learned that “operating rules can vary somewhat ... and Dr. Scarpa cleared up some inconsistencies in how policies are applied, [such as] how applications are reviewed to what types of supplemental materials may be submitted.... It was very informative and Dr. Scarpa did a good job in presenting this information.”

Most chairs in attendance expressed the same sentiment as Dr. John Young, a professor at the Salk Institute for Biological Studies:

**“It boosted my confidence** and made me more aware of things I should be paying attention to,” said Dr. Young. He added that he is now more focused on the time spent discussing applications. “After I attended the orientation, I put my stop watch on to clock each reviewer’s comments and catch tangential discussions before we lose valuable time.”

The chairs reflected feeling empowered by gaining a better understanding of their role, and most said the gathering equipped them with additional tools to enable them to run panels even

more effectively, with their SROs. CSR plans to continue to provide orientations to new chairs in the future.

## New Grant Mechanism Seeks to Spur Transformative Science

The National Institutes of Health set aside \$14 million to identify research that will revolutionize science—research that is considered risky but holds great promise in advancing medicine.

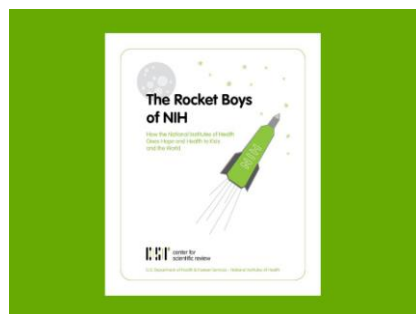
The deadline for this grant mechanism, called Transformative R01 (TR01s), was January 2009. The TR01 was created under the NIH Roadmap for Medical Research to Support “exceptionally innovative, high risk, original and/or unconventional research projects that have a potential to profoundly impact a broad area of biomedical or behavioral research.” The allocated funds represent a fraction of NIH’s \$29.5 billion budget.

“The feeling was that study sections were getting conservative and revolutionary ideas were getting short shrift,” said CSR Director Toni Scarpa. “We decided to review this type of science in a different way, with a three-phase editorial review.”

The first phase of review calls for editors (about a dozen eminent scientists) to identify the most innovative grant applications that hold the greatest potential for transforming a given field of research or discipline. In the second phase, applications receive mail reviews from subject matter experts. These mail reviews go back to the editors. The third phase of the review is a face-to-face meeting of the editors for final evaluation of the applications.

For more information, please go to <http://nihroadmap.nih.gov/T-R01/>.

## 'The Rocket Boys of NIH' – CSR Releases New Children's Book



NIH reviewers and scientists sacrifice a lot of family time to get their jobs done. How can you explain to your kids the value and importance of your work? How can you get them excited about science? CSR seeks to answer these key questions in a new children's book: “The Rocket Boys of NIH: How the National Institutes of Health Gives Hope and Health to Kids and the World.”

**The paperback book is based on a true story.** In 1957, members of an NIH review committee dug into their wallets and purses to give a “grant” to a 9-year-old boy named Terence Boylan of Snyder, N.Y. His energetic request for \$10 to build a rocket ship with his friend Bruce Cook moved distinguished members of this NIH committee to invest in the future. The book tells the trials and triumphs of NIH’s youngest researchers. It also dramatically shows how NIH and medical researchers work to save lives and make people healthier.

**Get a free copy:** The book is written at the 4-5<sup>th</sup> grade reading level. Any child (or adult) can request a copy in English or Spanish by sending an e-mail to [rocket@csr.nih.gov](mailto:rocket@csr.nih.gov). More info and videos are available online: <http://www.csr.nih.gov/rocket/>.

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