Neuroscience Leading the Way: Reviews Cascade by the INCF

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Often neuroscience is a rather conservative field that only slowly changes its professional procedures, for example, compare the impact of neuroinformatics on neuroscience with that of bioinformatics on genomics. But there are exceptions and this journal is proud to be part of an innovation to the paper peer review system that is initiated by neuroscience journals. A Neuroscience Peer Review Consortium has been formed to optimize the peer review of original neuroscience manuscripts. The International Neuroinformatics Coordinating Facility (INCF) hosts the central website for the Consortium at http://nprc.incf.org/. Neuroscience journals belonging to the Consortium will accept manuscript reviews from other Consortium journals and thereby reduce the number of times that a manuscript is reviewed. Once this approach becomes common it should reduce the load on reviewers and editors and shorten the time between submission and publication of papers.

The Consortium wants to adapt the review process to the widespread cascading of manuscripts down the journal impact factor slope. This cascade starts when authors submit their paper to a high-impact journal with low acceptance rate, and then resubmit it from one journal to another until it is finally accepted for publication. Each journal editor goes through the same process of inviting reviewers, which generates extra work for both editors and reviewers. Even though the authors may hope that new

reviewers give the paper higher scores than the previous set, this is not guaranteed and the new reviewers may raise other issues, causing repeated revisions of the paper. All in all the repeated reviewing of the same research results causes delays of weeks to months before a paper is finally published.

If, instead, reviews obtained by the first journal can be used by other journals, duplication of work will be avoided and publication may occur faster. Such a cascading review system will be implemented by the Neuroscience Peer Review Consortium which originated from discussions at the PubMed Plus Conference, an international meeting organized by the Society for Neuroscience in June 2007. At present the Consortium has 8 member journals: Human Brain Mapping, Journal of Neurophysiology, Neuroinformatics, Neuropharmacology, Neuroscience, The European Journal of Neuroscience, The Journal of Comparative Neurology and The Journal of Neuroscience. Many other neuroscience journals have been invited to join.

The Consortium leaves the initiative with the authors. They can request that a set of reviews be forwarded from one to another Consortium journal if they feel that these reviews are sufficiently positive. In practice, for the authors this will be similar to resubmitting a revised manuscript to the original journal, except that they will also have to reformat the paper to the second journal's style and ask the first journal to forward the original reviews. Reviewers for Consortium journal are required to allow forwarding of the content of their reviews, but have the option to permit their identity to be revealed or not to the other journal. The only information that is transmitted is the text of the reviews that were sent previously to the authors and, possibly, the names of the reviewers (which will not be revealed to the authors). No confidential comments will be forwarded, nor will priority ratings or other scores. All the reviews are

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forwarded, selection by the authors is not allowed, and they are forwarded to only one journal. If the second journal also does not accept the paper, it can forward in its turn a complete set of reviews, from both first and second journal, to a third one, and so on. Editors of journals which are members of the Consortium have agreed to this procedure but retain their privilege to use the previous reviews as they see fit, including the possibility of disregarding them.

As already mentioned this initiative is at present unique to neuroscience. It is also an interesting opportunity for the INCF. The INCF secretariat, which became operational earlier this year, nicely accomplishes its coordination function by hosting the Consortium web site. At the same time, the INCF is also getting much needed name recognition. Less exciting are the nut and bolts of the review cascading procedure. It is about as primitive one can get: journals will forward the reviews by e-mail to a receiving address. This was done to make it easy for publishers to enter the Consortium but can hardly be called a proper way to handle review sharing from an informatics perspective.

Finally, it is interesting to speculate how this initiative will influence the peer review process itself. First of all, the Consortium needs to make sure that authors find it attractive to use, which is not a given. What would you do if your manuscript was not accepted for publication because of one negative review, while the other two were quite supportive? My bet is that many authors will not want to gamble on the editor of the next journal ignoring the bad review and instead cross their fingers and hope they will be more lucky with a new set of reviewers. Similarly, how positive will reviewers be about the process? If they do not accept forwarding of their identification data it will be difficult for receiving editors to judge the quality of the reviews and the whole process will be largely meaningless. So it will be important that editors of the Consortium journals exert some pressure on their reviewers to be flexible and make the process work. But while initially the acceptance may be limited, as it will take time for authors

and reviewers to get to know the cascading system, the advantages are so obvious that it will eventually take off.

At that time it will inevitably influence the review process itself. At present reviews for high-impact journals tend to be written quite differently from reviews for lower impact ones. The first category of reviews contain explicit, non-confidential comments on the importance and relevance of the work. This approach is requested by the editors because they require the science not only to be good and correct but also quite original and of interest to a large reader audience. There is a growing concern that these latter, subjective, criteria have led to an increased potential of abuse where some reviewers may be more interested in blocking the work of competitors than in reviewing the science itself. Several new open access journals (e.g. *PLoS One* and the *Frontiers in Neuroscience* series) try to address this problem by reforming the peer review system, insisting that reviewers focus only on the correctness of the science and not on more subjective priority issues. It may be a useful side effect of the Neuroscience Peer Review Consortium, which hopefully will include the high-impact journals in the near future, that it achieves similar changes for established journals. Obviously review comments on the priority of the work appropriate for *Nature* or *Science* are of less interest once the reviews get to the editors of the journals currently belonging to the Consortium. Therefore all journals should clearly be encouraged to separate these two types of information, which, surprisingly, is at present more common for lower impact journals than high-impact ones. And reviewers should also be trained to be objective and only discuss the science reporting of the manuscript in their review, which can be transmitted to another Consortium journal, and then comment on relevance, impact and originality in some other place like the pull-down menus used by some journals. A complete separation of the 'objective' and 'subjective' parts of the review, also in the minds of reviewers and editors, would be a great improvement of the current peer review system.