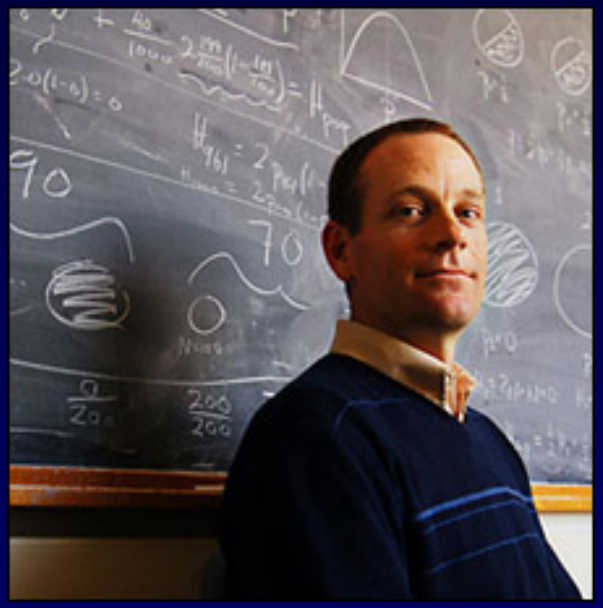
Authorship and peer review…

Harvard Course in Responsible Conduct of Research

Wednesday, August 20, 2014



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Financial Disclosures, Conflicts

None to report

Any comments relating to companies and/or commercial ventures are meant to illustrate points only and neither endorse nor criticize their products, services, hopes, illusions, inner yearnings, psychoses, and/or aspirations.

Outline

- Considerations on authorship…
- What is peer review and why does it keep following me?
  - Manuscripts under consideration
  - Funding applications
  - Letters of assessment (*i.e.* rec letters)
- Can we make peer review *better*?
- Wild and reckless speculation…

Thoughts on *why* this stuff matters...

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We invest ourselves in our work...

– Dr. Lewis Thomas

***New England Journal of Medicine* 296 (1977): 328.**

Ethics and Philosophy

We hold ourselves to high standards…

Unreliable research

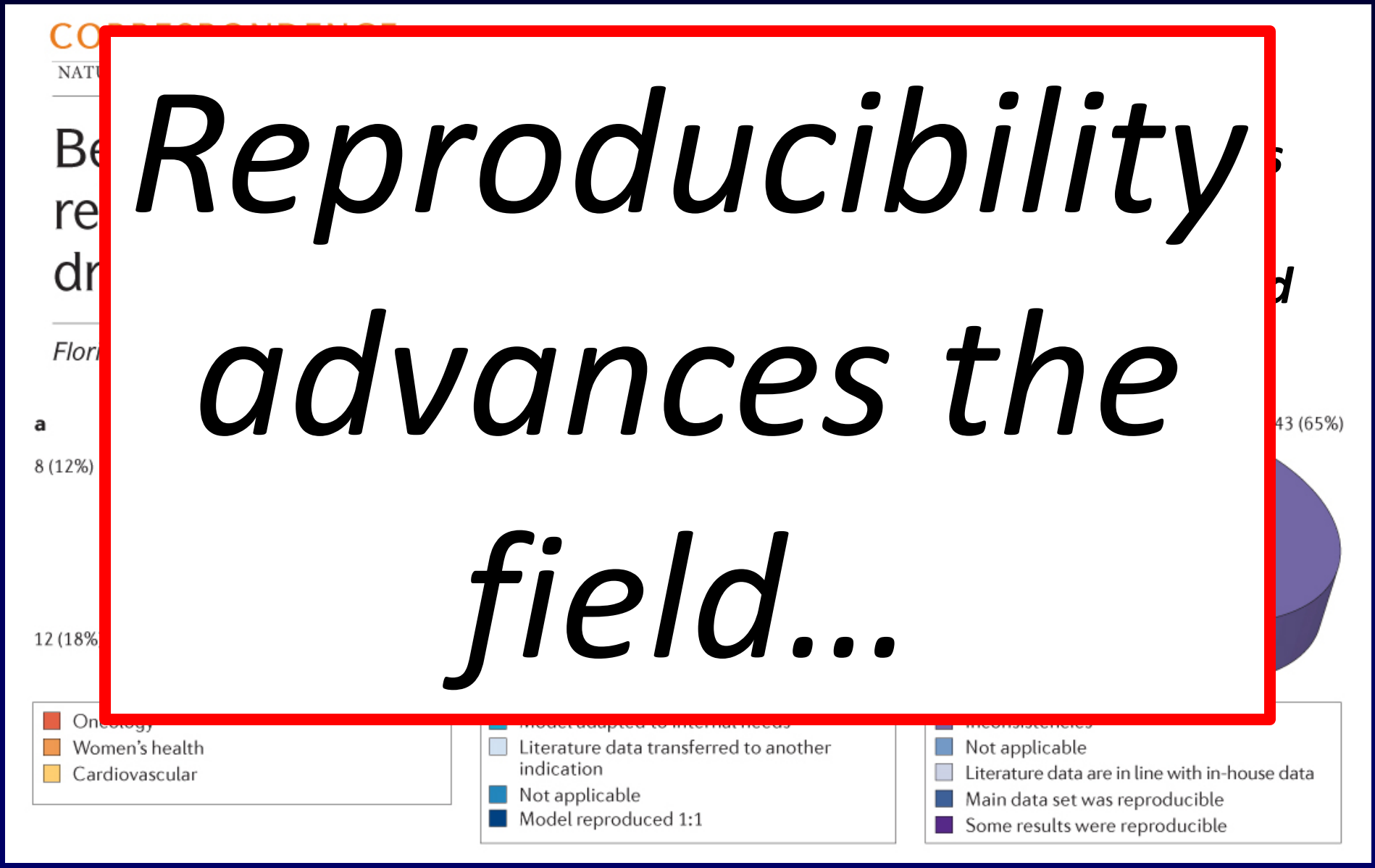
Trouble at the lab

Scientists like to think of science as self-correcting. To an alarming degree, it is not

Oct 19th 2013 | From the print edition

"I SEE a train wreck looming," warned Daniel Kahneman, an eminent psychologist, in an open letter last year. The premonition concerned research on a phenomenon known as "priming". Priming studies suggest that decisions can be influenced by apparently irrelevant actions or events that took place just before the cusp of choice. They have been a boom area in psychology over the past decade, and some of their insights have already made it out of the lab and into the toolkits of policy wonks keen on "nudging" the populace.

(Ir)reproducibility



Reproducibility advances the field…

Authorship

- What does it mean to be an author?

2 AUGUST 2013 VOL 341 SCIENCE www.sciencemag.org

Two Dimensions of Value: Dopamine Neurons Represent Reward But Not Aversiveness

Christopher D. Fiorillo

Whereas reward (appetitiveness) and aversiveness (punishment) have been distinguished as two discrete dimensions within psychology and behavior, physiological and computational models of their neural representation have treated them as opposite sides of a single continuous dimension of "value." Here, I show that although dopamine neurons of the primate ventral midbrain are activated by evidence for reward and suppressed by evidence against reward, they are insensitive to aversiveness. This indicates that reward and aversiveness are represented independently as two dimensions, even by neurons that are closely related to motor function. Because theory and experiment support the existence of opponent neural representations for value, the present results imply four types of value-sensitive neurons corresponding to reward-ON (dopamine), reward-OFF, aversive-ON, and aversive-OFF.

Authorship

- What does it mean to be an author?

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Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC ☆

ATLAS Collaboration *

This paper is dedicated to the memory of our ATLAS colleagues who did not live to see the full impact and significance of their contributions to the experiment.

ATLAS = A Toroidal LHC Apparatus

Authorship: ATLAS Names 1, 2

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Authorship: What does it mean?

- ***What criteria for authorship?***
- **Conducting the experiment**
- **Designing the experiment**
- **Writing the manuscript**
- **Editing the manuscript**
- **Analyzing the data**
- **Providing samples/data**
- **Any substantial intellectual contribution**
- **Being the PI**

(1/15/2013 course whiteboard answers)

Authorship: What does it mean?

- **International Committee of Medical Journal Editors:**
- **(perhaps one of the most rigorous statements on authorship)**

- **"Authorship credit should be based on**
  1. **Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;**
  2. **Drafting the article or revising it critically for important intellectual content; and**
  3. **Final approval of the version to be published.**

  Authors should meet conditions 1, 2 and 3."

www.icmje.org/ethical_1author.html

Authorship: Clarifying Contributions

- **What were the contributions of each author to the paper?**
- ***"If scientists want to convey this information by the way their names are ordered, the method is similar to sending smoke signals, in code, on a dark, windy night."***

  --Drummond Rennie, Deputy Editor, JAMA
- **Nowadays, often see "authorship statements"**

In the present paper, a solution to this problem will be presented together with Monte Carlo experiments to test some of the theoretical results. Throughout this paper, the senior author (M. K.) is responsible for the mathematical treatments, while the junior author (T. O.) is responsible for the numerical treatments based on computers.

Kimura and Ohta (1969) *Genetics* **61**:763-771

Authorship:
To avoid conflicts, make a plan

1. **Have a clear authorship policy.**
2. **Discuss and document projected individual contributions and provisional authorship, ideally at the start of the project.**
3. **Review contributions as the work progresses, revise roles and authorship accordingly until journal submission.**
4. **Maintain a descriptive authorship contribution list.**
5. **Document the reasons for author additions and deletions, and get agreement for changes from all individuals.**
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- ***http://projects.iq.harvard.edu/attribution_workshop***

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- Peer Review Policies & Practices
- Intellectual Property Policy
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Peer Review Policies & Practices

On This Page:

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Remarks by President Barack Obama on the 150th Anniversary of the National Academy of Sciences, April 29, 2013

What's New in Peer Review

Friday, April 25, 2014

Updated Submission Policy. The NIH announced an updated policy for application submissions that allows applicants to come in with a new application after an unsuccessful resubmission. See NOT-OD-14-074 and NOT-OD-14-082, and FAQs on application submission.

Research Training Programs. Following recommendations of the Biomedical Research Workforce Task Force, the NIH is implementing changes to the review criteria used to evaluate applications for fellowships, career development awards, and training grants. See the Guidelines and Fill-able Templates for Reviewers.

Thursday, Feb. 6

Related Resources
- Peer Review Intranet (NIH Staff)
- Core Values of NIH Peer Review
- Video: NIH Peer Review Process Revealed
- Peer Review Notes
- Frequently Asked Questions
- Rosters of NIH Scientific Review Groups
- Office of Federal Advisory Committee Policy (Advisory Council information)
- Enhancing Peer Review
- Continuous Review of Peer Review
- Related Archives

http://grants.nig.gov/grants/peer/peer.htm

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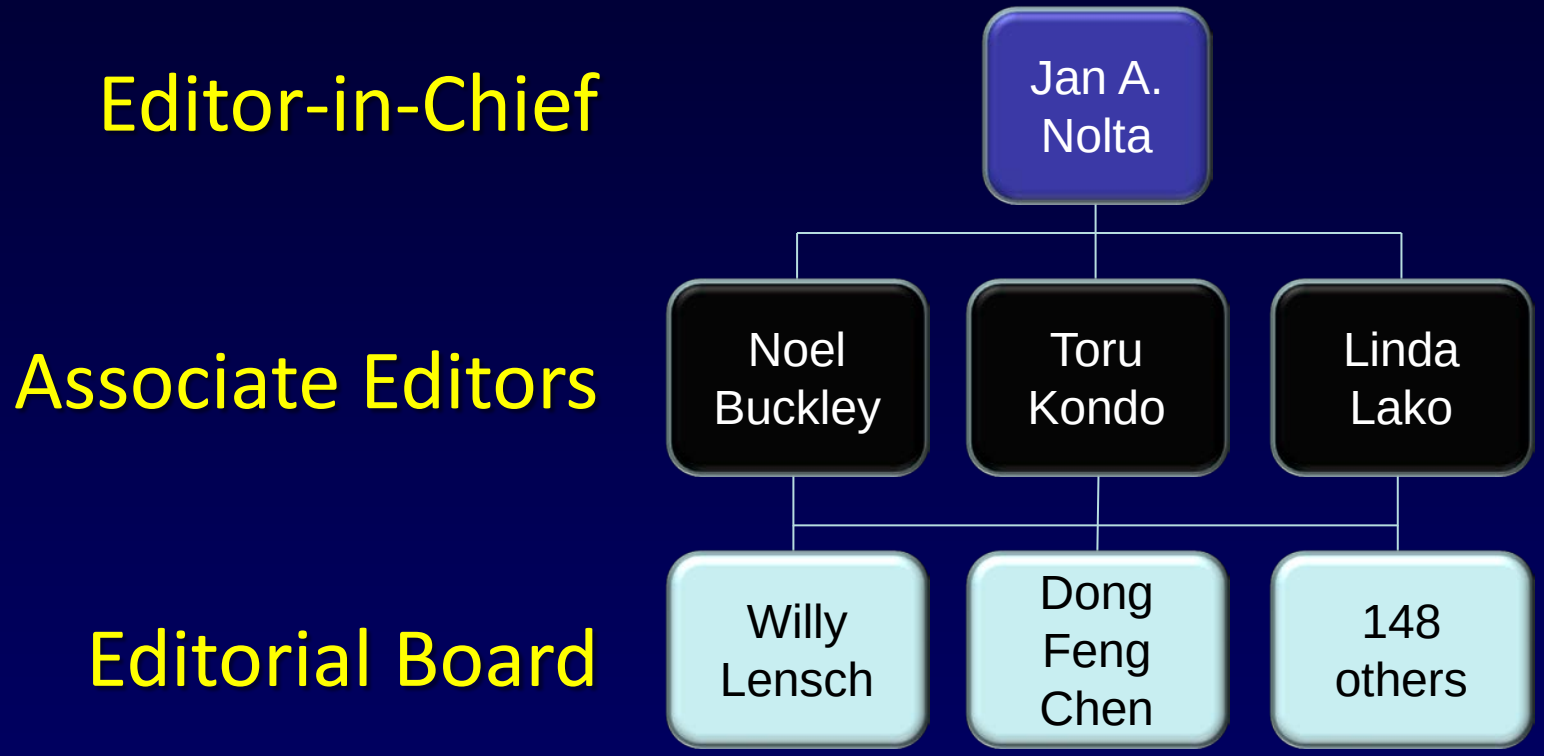
"… is the evaluation of work by one or more people of similar competence to the producers of the work (peers)."

Peer Review:
e.g., Editorial Structure at Stem Cells



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Have any of the following ever happened to you during the peer review process?	
	% Yes
A reviewer was incompetent	61.8
A reviewer was biased	50.5
A reviewer required you to include unnecessary references to his/her publication(s)	22.7
Comments from reviewers included personal attacks	17.7
A reviewer delayed the review so that he/she could publish an article on the same topic	9.6
A reviewer breeched confidentiality	6.8
A reviewer used your ideas, data, or methods without your permission	4.5

Survey of researchers, research staff, post-doctoral trainees and technicians at the NIEHS: Table 1 in Resnik et al (2008) Perceptions of Ethical Problems with Scientific Journal Peer Review: An Exploratory Study. *Sci Eng Ethics* **14**:305-310.

Wakeley

Peer Review: Reviewer Responsibilities

- What are your obligations as a reviewer? (previous course answers)
  - Make sure that the science is sound
  - Confidentiality
  - Don’t use the information from unpublished manuscript
  - Be objective and disinterested
  - Read the entire manuscript, be informed, and read the supplemental information (!)
  - Be fair, weigh both positives and negatives
  - Be professional, not personal
  - Ask reasonable questions or requests within the scope of the article, and the scope of the audience, impact and breadth of the journal
  - Shouldn’t be about promoting your own research agenda
  - Try to help comment on the clarity of the writing
  - Inform the editor about conflicts of interest
  - Be timely in writing your review

Peer Review: Conflicts of Interest

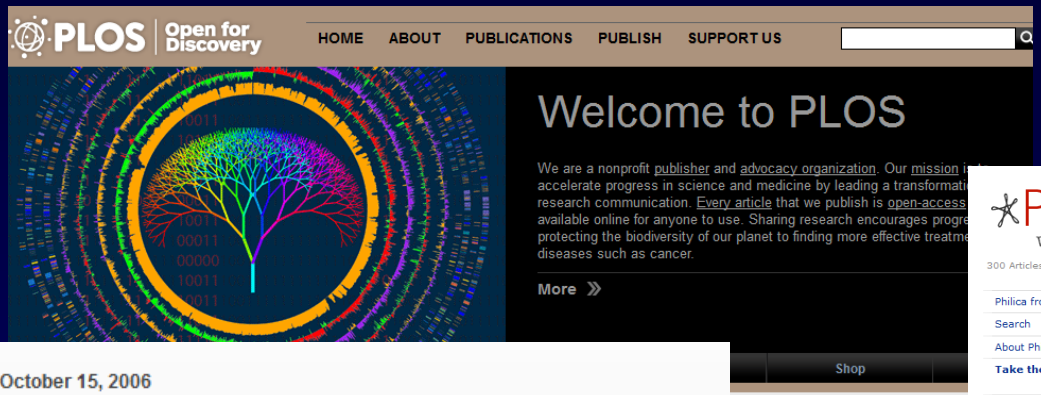
- Major professional role in the research
- Direct or indirect financial benefit from the research
- Employed by the researchers or by the same institution
- Professional or personal relationships
- Appearance of a conflict of interest

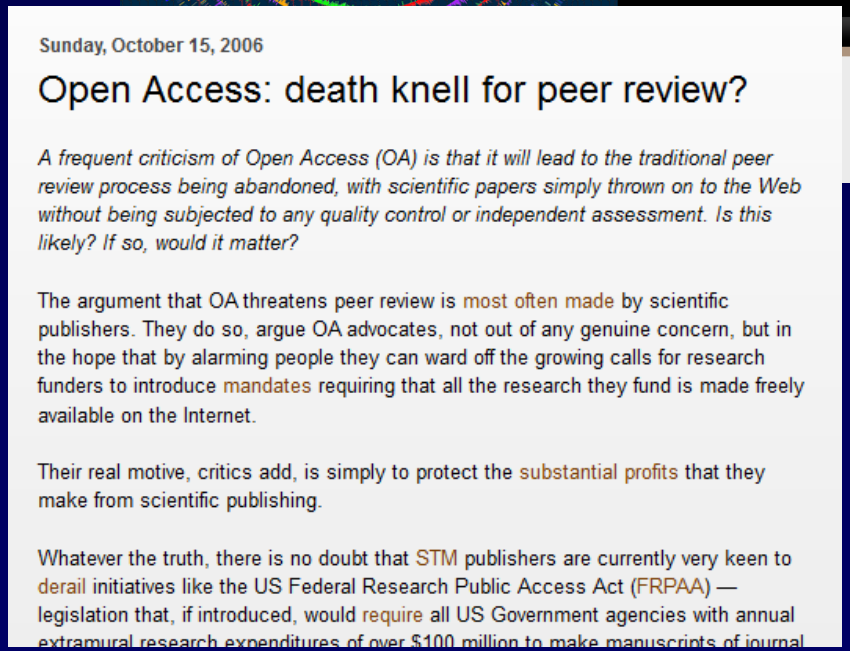
Peer Review: Confidentiality

- Maintain the confidentiality of all materials
- Treat like any other confidential info, (Best practices would be: no email; keep off of unsecure devices; use whole disk encryption on laptops; use only approved secure file sharing systems.)
- New resource for FAS: Secure Google apps via g.harvard.edu
  HMS: eCommons?

Wakeley

Peer Review: Time for a New Model?





Sunday, October 15, 2006

Open Access: death knell for peer review?

A frequent criticism of Open Access (OA) is that it will lead to the traditional peer review process being abandoned, with scientific papers simply thrown on to the Web without being subjected to any quality control or independent assessment. Is this likely? If so, would it matter?

The argument that OA threatens peer review is most often made by scientific publishers. They do so, argue OA advocates, not out of any genuine concern, but in the hope that by alarming people they can ward off the growing calls for research funders to introduce mandates requiring that all the research they fund is made freely available on the Internet.

Their real motive, critics add, is simply to protect the substantial profits that they make from scientific publishing.

Whatever the truth, there is no doubt that STM publishers are currently very keen to derail initiatives like the US Federal Research Public Access Act (FRPAA) — legislation that, if introduced, would require all US Government agencies with annual extramural research expenditures of over $100 million to make manuscripts of journal

PLoS One

- Limited Peer Review ("Has the science in this paper been done well enough to warrant it being entered into the scientific literature as a whole?") +
- Post-publication open comment

Wakeley

The NIH Peer Review Challenge

The National Institutes of Health Center for Scientific Review (CSR) is issuing two Challenges for ideas to detect potential bias in peer review and ideas to strengthen reviewer training to enhance impartiality and fairness in the review of grant applications.

A First Prize in the amount of $10,000 and a Second Prize in the amount of $5,000 is offered in each category below.

Challenge #1

New Methods to Detect Bias in Peer Review

Submit your idea on how to detect bias among reviewers due to gender, race/ethnicity, institutional affiliation, area of science, and/or amount of research experience of applicants. First and Second prizes will be offered in two categories, best empirically based idea and most creative idea. Additional details can be found at **FRN Doc.2014-10196**.

Challenge #2

Strategies to Strengthen Fairness and Impartiality in Peer Review

Submit your idea on how to strengthen reviewer training methods to enhance fairness and impartiality in peer review. First and Second prizes will be offered for the best overall ideas. Additional details can be found at **FRN Doc.2014-10203**.

Instructions:

http://public.csr.nih.gov/Pages/Challenge.aspx

1. Review the Complete Rules for Each Challenge.
2. Fill out the Appropriate Coversheet (**Challenge 1**) (**Challenge 2**).
3. Submit Your Ideas and Coversheet at **CSRDiversityPeerRev@mail.nih.gov**

Submissions: Must be received by 11:59 PM (EST) on June 30, 2014. Late submissions will not be considered.

Winners will be announced September 2, 2014.

Submit Your Idea at

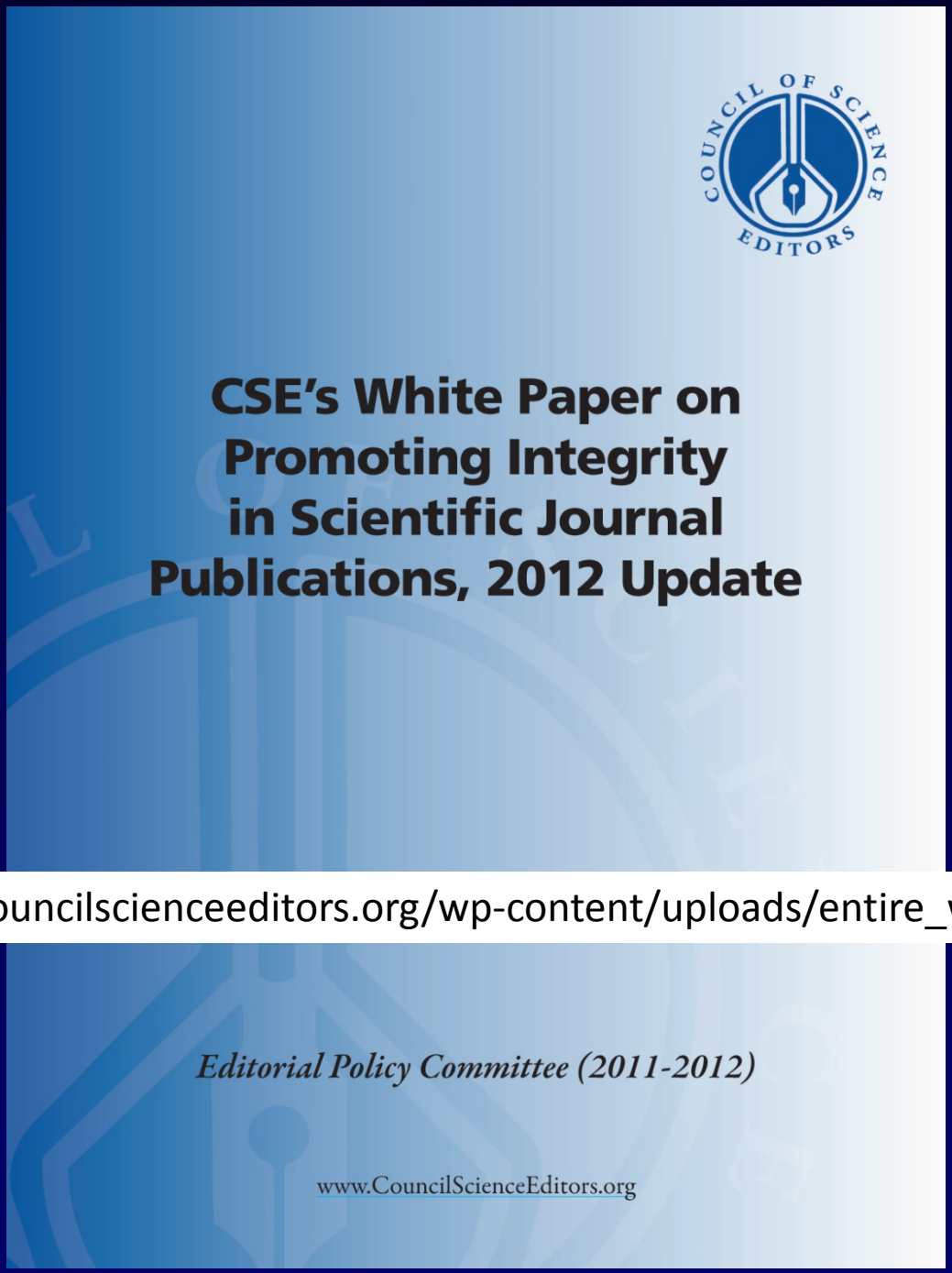
CSRDiversityPeerRev@mail.nih.gov

Resources? *Please?*

http://grants.nih.gov/grants/peerreview22713webv2.pdf

NIH Peer Review:

Grants and Cooperative Agreements



http://www.councilscienceeditors.org/wp-content/uploads/entire_whitepaper.pdf

Information for Reviewers

Peer review is a critical factor in promoting the rigor and high quality of scientific research. The entire scientific community benefits when the peer-review process is timely, thorough, and balanced. The editors of Cell Press greatly appreciate the tremendous collective contribution that reviewers make to our journals and the articles they publish. We hope that the guidelines described below will help facilitate peer review as a conversation between authors and reviewers, and as an essential element of the publication process.

Reviewer invitations for Cell press journals are sent out by email from the Editorial Manager (EM) system. The invitation includes information about the title and abstract of the manuscript and an indication of the time frame in which we would like to receive the review. After agreeing to review the paper, the reviewer has access to the entire manuscript. Once referees submit their reviews, they will have access to the comments provided by the other reviewers as well. We encourage reviewers to contact the editorial office at any time if they require additional information or assistance.

The content of the review

The core of any review is an objective assessment of both the technical rigor and the novelty of the presented work. Key features of a review include

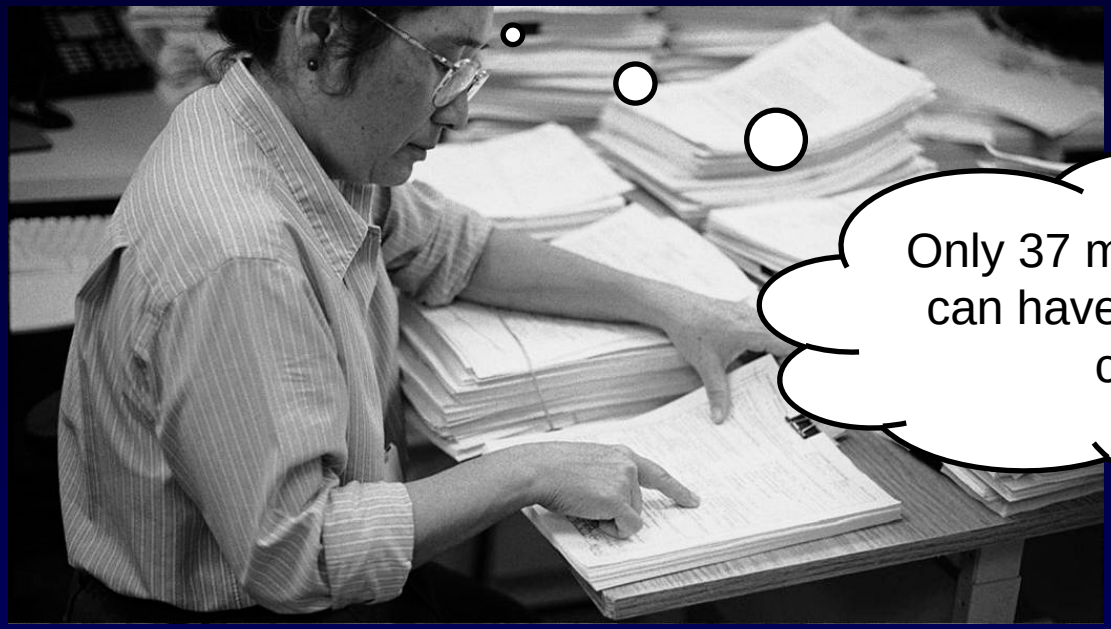
- an outline of the conceptual advance over previously published work,
- a specific recommendation,
- the reasons for that recommendation, and
- a summary of the specific strengths and weaknesses of the paper. In this regard, we encourage referees to comment on the quality and presentation of the figures as well as the validity of the statistical methods used to interpret them. (If necessary, the editors can obtain primary data from the authors for referees' use in these more detailed evaluations.)

Some other issues that are often useful to discuss include

- alternative hypotheses that are consistent with the available data,
- the paper's potential audience (i.e., the relevant fields within the readership of the journal), and
- balanced referencing of the pre-existing literature. In particular, when previously published work has undercut the novelty of the present findings, it is extremely helpful to include in the body of the review detailed citation of the relevant articles and data.

http://www.cell.com/reviewers

Wild and reckless speculation…



Thank you!

Karen Woodward Massey

Monica Busch

John Wakeley and Logan McCarty

Journal editors, authors, staffers, funders…

Reviewer #3