

# Securing Trust & Transparency in Peer Review

Adam Etkin, Founder and Managing Director

<http://pre-val.org>

@PeerReviewEval

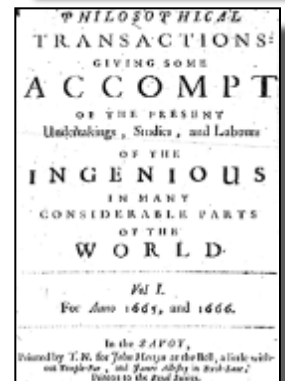
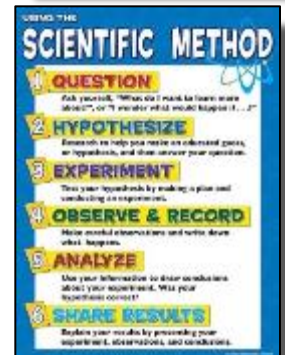


- Brief History of Peer Review
- What IS Peer Review?
- Current Trend & Criticisms
- Importance of Peer Review
- Transparency & Open Review
- PRE-val



# A Brief History of Peer Review

- **1450:** Gutenberg invents movable-type printing press
- **1450-1600:** We see the rise of the modern scientific method
- **1665-1669:** 1st recorded pre-publication peer-review process at the Royal Society of London in 1665 by Henry Oldenburg, the founding editor of *Philosophical Transactions*.
- **1731:** 1<sup>st</sup> peer reviewed journal? “Medical Essays & Observations”
- **1800-1900:** Between the 19th and 20th century it became the norm for scientists to undergo peer review before being published



## Sources:

Thomas H.P. Gould; *Do We Still Need Peer Review? An argument for change*  
 Peer Review Watch; *TIMELINE: HISTORY OF PEER REVIEW*

# What is peer review supposed to do?



## What is peer review NOT supposed to do?



"Yeah, but good luck getting it peer-reviewed."

In order for peer review to work...

- Honesty/Integrity
- Personal/Professional Responsibility
- Good Behavior
- Trust



are short, and the  
sung by the choir of  
priest.  
**responsibility** /  
**ities.** 1 If you ha  
something, you h  
them, and it is you

Don't let  
the behavior  
of others  
destroy your  
inner peace.

Dalai Lama



**Are these unrealistic expectations?**

**Bad apples spoil the bunch**





# **Traditional peer review & scholarly publishers seem to be under constant criticism**



- We've seen the emergence of "predatory" publishers & "peer review rings"
- Some high profile cases of faulty research being published
- Non-reviewed pieces appearing in peer reviewed journals
- "Publish then filter" and "Publishing is a button" attitude

## Academic journal retracts articles over 'peer review ring' with bogus scholars

Journal of Vibration and Control says 60 articles published over last four years cited academics with 'assumed identities'

Science | AAAS.ORG | FEEDBACK | HELP | LIBRARIANS | All Science Journals | Enter Search Term

AAAS | NEWS | SCIENCE JOURNALS | CAREERS | MULTIMEDIA | COLLECTIONS

Science | The World's Leading Journal of Original Scientific Research, Global News, and Commentary.

Science Home | Current Issue | Previous Issues | Science Express | Science Products | My Science | About the Journal

Home > Science Magazine > 4 October 2013 > Bohannon, 342 (6154): 60-65

Article Views

- Summary
- Full Text
- Full Text (PDF)
- Data and Documents
- Podcast Interview

Science 4 October 2013:  
Vol. 342 no. 6154 pp. 60-65  
DOI: 10.1126/science.342.6154.60

NEWS

### Who's Afraid of Peer Review?

John Bohannon

< Prev | Table of Contents | Next >  
Read Full Text to Comment (217)

## Publisher discovers 50 manuscripts involving fake peer reviewers

with 24 comments

BioMed Central has uncovered about fifty manuscripts in their editorial system that involved fake peer reviewers, Retraction Watch has learned.



SCIENCE VISUALIZED  
LATEST Solar explosion forms 'Canyon of Fire'  
BY ANDREW ORANT NOVEMBER 27, 2013  
VIEWS

## 'CRAP' paper accepted for publication

## Publishers withdraw more than 120 gibberish papers

Conference proceedings removed from subscription databases after scientist reveals that they were computer-generated.

## SCIENTIFIC AMERICAN™

Sign In | Register 0

Search ScientificAmerican.com

Subscribe

News & Features

Topics

Blogs

Videos & Podcasts

Education

More Science » News

8 :: Email

## For Sale: "Your Name Here" in a Prestigious Science Journal

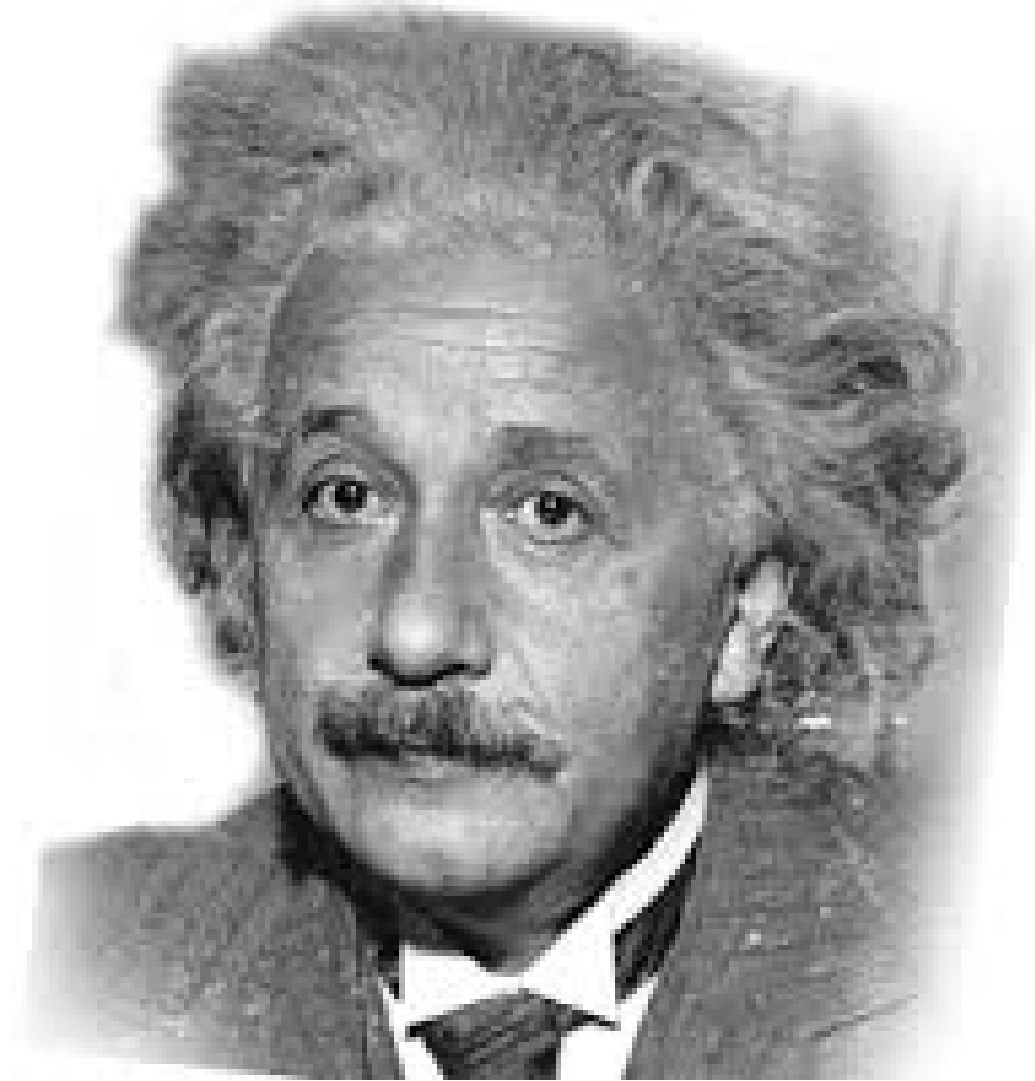
An investigation into some scientific papers finds worrying irregularities

December 17, 2014 | By Charles Seife





## **“Even Einstein Hated Peer Review”**



**Slate**

# Revise and Resubmit!

Peer review is slow. It's unhelpful. It's generally awful. Here's how to fix it.

*By Rebecca Schuman*

# Really?



**BURBANK, CA**



**NEW YORK**



**NEW YORK**

MEET THE PRESS

# Community Values Peer Review

**Despite the criticism, surveys show peer review is valued by researchers & authors.**

Most (**69%**) researchers are satisfied with the current system of peer review but only a third think that the current system is the best we can do

Most (**84%**) believe that without peer review there would be no control in scientific communication

Almost all researchers (**91%**) believe that their last paper was improved as a result of peer review

While many want a faster process with fewer rounds, the overwhelming majority (**~70%**) prefer to wait for thorough review

**93%** of science authors consider quality of PEER REVIEW when deciding where to publish

**78%** of OA authors prefer traditional, rigorous peer review

Only **20%** want basic check followed by post-publication review

***“The qualitative data also point to the fact that peer review is the central pillar of trust.”***

*University of Tennessee and CIBER Research Ltd, December 2013*

# What IS “Open”?



CAT MIME IN  
INVISIBLE BOX.



# There's not just one “right” approach



## One size does not fit all

# Before Opening the Box

## PROS

- Increased level of trust & transparency
- Reviewers will think more carefully about the research and provide more attentive, detailed comments
- May expose possible conflicts of interest
- Reduction of antagonistic comments and unsupported criticisms
- Post-publication open review may result in a larger pool of reviewers
- Reviewers are acknowledged and get credit for their contributions

## CONS

- Increased difficulty in finding reviewers (Reality check!)
- Younger scientists may feel it difficult to be completely candid, knowing that the author they are reviewing may have influence over their future
- Well-known authors could receive preferential treatment
- There may be legal and/or copyright issues to consider
- Invites quid pro quo dynamic – especially in small/emerging areas of research

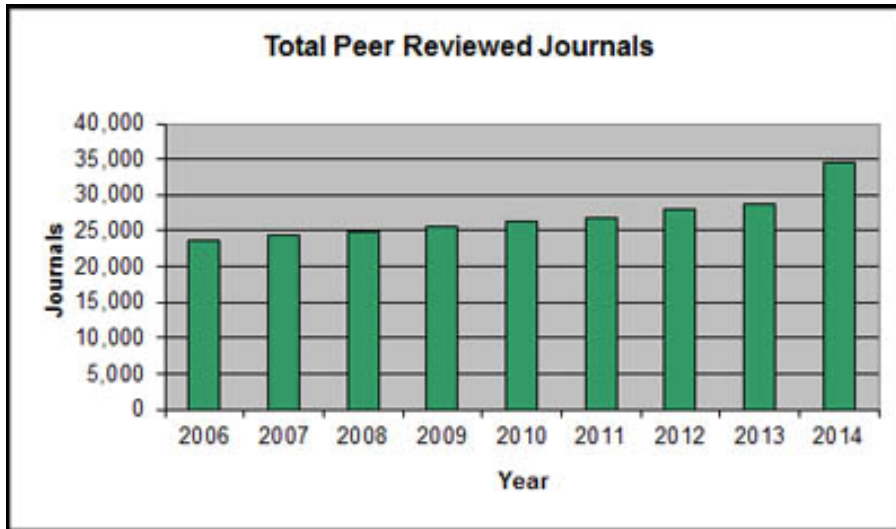




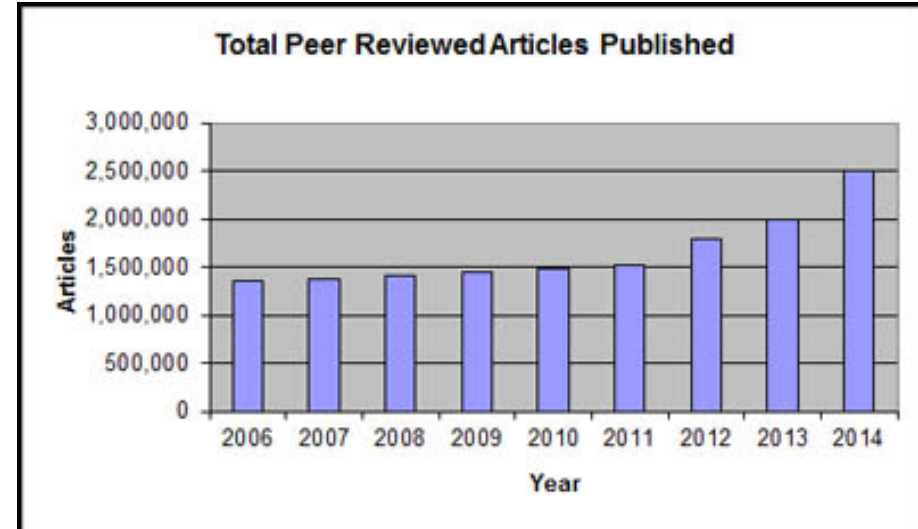
It's a  
Trap!

# A growing journals market

34,000+ journals, and growing



2.5 million articles in 2014



**More information than ever, less time to sort through it all.**

\*B.-C. Björk, R. Annikki, and M. Lauri. *Global annual volume of peer reviewed scholarly articles and the share available via different Open Access options*

\*The National Science Board estimates the average annual growth of the indexes within the Web of Science to be 2.5% (See: *Science and Engineering Indicators 2010*, chapter 5, page 29)

\*The STM Report: *An overview of scientific and scholarly journal publishing*

# Overview of PRE-val

***PRE-val is the only service to provide independent, third-party verification of the peer review process at the journal and article level.***

**PRE-val leverages metadata provided directly from the manuscript tracking system (ScholarOne, Ed. Manager, etc.) to:**

1. Confirm that a paper has undergone peer review in the manner advertised
2. Parse and display information related to the peer review process

**Confirmation is provided and information is displayed via the PRE-val badge**





# Why PRE-val and Why Now?

## Current trends:

- Increasing pressure to publish has led to more cases of fraud and scientific misconduct
- Predatory publishers are taking advantage and will publish anything for a price
- Overworked editors and reviewers are resorting to shortcuts leading to serious lapses in peer review
- Journals are publishing more editorial content alongside peer reviewed content
- Explosion of online publishing has made it difficult to ascertain quality
- Growing variety of peer review methods with varying degrees of rigor
- Trend towards 'openness' fueling demand for greater transparency in peer review
- Closed nature of traditional peer review fueling suspicions of editorial bias



PRE-Val demo



[Online Demo](#)



« Previous | Next Article »  
Table of Contents

# Elevated S-Adenosylhomocysteine Alters Adipocyte Factor 1 Expression and Adipogenic Marks

Sherry Ngo<sup>†</sup>, Xiaoling Li, Renelle O'Neill, Chandrakanth Bhoothpur, Peter Gluckman and Allan Sheppard

[+ Author Affiliations](#)

Corresponding author: Sherry Ngo, [s.ngo@auckland.ac.nz](mailto:s.ngo@auckland.ac.nz).

## Abstract

Maternal deficiencies in micronutrients affecting one-carbon metabolism before and during pregnancy can influence metabolic status and the degree of insulin resistance and obesity of the progeny in adulthood. Notably, maternal and progeny plasma S-adenosylhomocysteine (SAH) levels are both elevated after vitamin deficiency in pregnancy. Therefore, we investigated whether this key one-carbon cycle intermediate directly affects adipocyte differentiation and function. We found that expansion and differentiation of murine 3T3-L1 preadipocytes in the presence of SAH impaired both basal and induced glucose uptake as well as lipolysis compared with untreated controls. SAH did not alter preadipocyte factor 1



## This Article

Published online before  
print February 26, 2014,  
doi: 10.2337/db13-1640

Diabetes July 2014 vol. 63  
no. 7 2273-2283

Abstract **Free**

► Full Text

Full Text (PDF)

All Versions of this Article:

db13-1640v1

63/7/2273 **most recent**

☐ Services

Email this article to a  
colleague


Alert me when this article is  
cited

Alert me if a correction is  
posted

Similar articles in this  
journal

Similar articles in PubMed

Download to citation  
manager

 Get Permissions

Add to Custom Publication

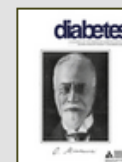
☐ Google Scholar

☐ PubMed

## Navigate This Article

## Current Issue

July 2014, 63 (7)



[+ Issue Highlights](#)

[Alert me to new issues of  
Diabetes](#)

[About Diabetes](#)

[Editorial Board](#)

[Instructions for Authors](#)

[Subscriptions](#)

[Advertising & Reprints](#)

[ADA Mobile](#)

[ADA's DiabetesPro](#)

[ADA Member Directory](#)

## Info about peer review process:

- Rounds of review
- Roles participating
- Method of review

## Other measures of screening quality:

- COPE member?
- Plagiarism screening?
- Use of ORCID?

## Optional info:

- Reviewer comments
- Reviewer names



The screenshot displays the 'PRE-val' Peer Review Evaluation interface for 'The Journal of Bone & Joint Surgery' (J B J S). The page is titled 'Peer Review Details' and provides a DOI of 10.2106/JBJS.M.00862. It lists the review method as 'Double-Blind' with a link to the reviewer guidelines, the number of review rounds as 3, and confirms plagiarism screening. Submission and acceptance dates are provided. A table lists the roles who reviewed: Editor In Chief (1), Deputy Editor (1), Statistics Editor (1), and Reviewer (3). At the bottom, logos for PubMed, COPE, ORCID, and STM are shown with checkmarks, indicating adherence to their guidelines.

**PRE-val**  
Peer Review Evaluation

**J B J S** The Journal of Bone & Joint Surgery

**Peer Review Details** DOI: 10.2106/JBJS.M.00862

- Method of review: **Double-Blind**  
<http://jbjs.org/content/jbjs-consultant-reviewer-guidelines>
- Rounds of review prior to acceptance: **3**
- Article screened for plagiarism prior to acceptance?: **YES**
- Date of original submission: **2013-05-29**
- Date accepted: **2013-11-12**

**Roles who reviewed**

Editor In Chief:	1
Deputy Editor:	1
Statistics Editor:	1
Reviewer:	3

This journal adheres to guidelines provided by the following organizations and employs services which reflect best practices in scholarly publishing.

**PubMed** **COPE** **ORCID** **STM**  
the global voice of scholarly publishing

✓ ✓ ✓ ✓



# Community invested in improving peer review

New Initiatives  
New Standards



ing journal peer  
let



EUROPEAN COOPERATION  
IN SCIENCE AND TECHNOLOGY



tudy

## Advancir Approac

Jennifer A. Je  
a Center for H  
Pittsburgh, Pe

## NEW FRONTIERS OF PEER REVIEW

BY CATEGORY  
NEWS



REBECCA LAWRENCE

REBECCA LAWRENCE (F1000) WILL  
GIVE A TALK ON "BRINDING  
TRANSPARENCY TO PEER REVIEW"

BY CATEGORY  
EVENTS



MEETING

TOWARDS AN INTERDISCIPLINARY  
APPROACH TO PEER REVIEW:  
THEORY, MODELS AND DATA.

BY CATEGORY  
PHOTOGALLERY



BUDAPEST MEETING

BY FLAMINIO SQUAZZONI / OCTOBER 21, 2014

Science & Society

## Threats to gender

Anna Kaatz<sup>1</sup>, Belinda Gutierrez<sup>2</sup>, and Molly Carnes<sup>3</sup>

an

PRE for everyone

## Who Benefits?

Readers



Authors



Librarians



Publishers/Journals



Editors/Reviewers





# Stakeholder benefits

## Readers

- Provides opportunity to identify quality evidence and to spot
- Encourages peers to make their own decisions about what
- Differentiates journals from a core of journals in key subject areas
- Distinguishes legitimate journals from predatory ones and
- Guides researchers from unreliable sources to high quality
- Reinforces trust in publishers and journal brand practices
- Differentiates the profession against identity theft and
- Provides a happy medium between increased transparency
- Encourages monitoring of performance of peer review process
- Encourages compliance with publisher policies



# Community

**Different approaches, different services....one goal:  
Working together to educate and support**

ORCID



**sense about science**

equipping people to make sense of science and evidence





# Looking ahead

## **PRE's plans for the future:**

- Convene first in-person Expert Advisory Board (EAB) meeting
- Conduct peer review survey to identify needs of community
- Work with PEERE, EASE, and others to drive scientific understanding of peer review
- Work with EAB to address needs of community and establish peer review process standards
- Continue to explore PRE-score with help of EAB and Early Adopters
- Determine curriculum for peer review training and possible certification
- Continue to work with ORCID to improve authentication in an effort to combat identity theft and foil peer review rings
- Continue to work with Retraction Watch to establish and promote best practices
- Experiment with 'feedback loop' to see if there is a relationship between peer review process and article impact

# How it works



**Publisher Manuscript Submission &  
Peer Review Tracking System**

`<metadata> PEER REVIEW </metadata>`

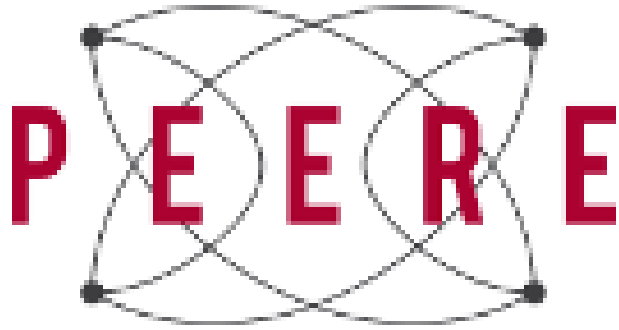


**PRE API**



**Publisher places badge on:**

- **Journal article page**
- **Search results**
- **Aggregator sites**
- **Article metrics**
- **Anywhere else a signal of peer review is important**



# Securing Trust & Transparency In Peer Review

Adam Etkin, Founder and Managing Director

<http://pre-val.org>

@PeerReviewEval

# Sources

Thomas H.P. Gould; *Do We Still Need Peer Review? An argument for change*

Peer Review Watch; *TIMELINE: HISTORY OF PEER REVIEW*

Irene Hames; *Peer Review and Manuscript Management in Scientific Journals*

Susannah Locke; This scientific journal just had to retract 60 papers. How does that even happen?

Andre Spicer, Thomas Roulet; *Hate the peer-review process? Einstein did too*

Rebecca Schuman; *Revise and Resubmit!; Slate*

Sense About Science; *Peer Review Survey 2009*

Taylor & Francis; *Author Survey: April 2013*

CIBER Research; *TRUST AND AUTHORITY IN SCHOLARLY COMMUNICATIONS IN THE LIGHT OF THE DIGITAL TRANSITION 2013*

Mark Ware, Michael Mabe; *The STM Report: An overview of scientific and scholarly journal publishing*