

# Open Access

## What's Happening?

Pete Binfield  
Co-Founder and Publisher  
PeerJ

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pete@peerj.com

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UCSF  
06/17/2013

PeerJ

Academic Publishing is Evolving...



University of California  
San Francisco

### **Jeffrey A. Bluestone**

#### **University of California San Francisco**

A.W. and Mary Margaret Clausen Distinguished Professor; Director, Hormone Research Institute; and Executive Vice Chancellor and Provost. Serves on the Science Translational Medicine advisory board and founding Director, Immune Tolerance Network. A recipient of a Guggenheim Fellowship and elected member of the Academy of Arts and Sciences. Dr. Bluestone has spent over 30 years working as an immunologist interested in immune tolerance as it relates to autoimmunity and organ transplantation.

### **Sally J. Marshall**

#### **University of California, San Francisco (UCSF)**

Vice provost of academic affairs and director of the Office of Faculty Development and Advancement. Professor of biomaterials and bioengineering in the Department of Preventive and Restorative Dental Sciences in the UCSF School of Dentistry. Guest staff scientist at the Lawrence Berkeley National Laboratory. Former president of the International Association for Dental Research and a fellow of the Academy of Dental Materials.

### **Katherine S. Pollard**

#### **University of California, San Francisco**

Associate Investigator at Gladstone Institutes and Associate Professor in the Institute for Human Genetics and the Department of Epidemiology & Biostatistics, University of California, San Francisco.

### **B. Matija Peterlin**

#### **University of California, San Francisco**

Professor of Medicine, Microbiology and Immunology, UCSF. Finland Distinguished Professor, Virology, U. Helsinki, Finland. Visiting Professor, Institute of Biochemistry, U. Ljubljana, Slovenia. Member, IJS Postgraduate School, Ljubljana, Slovenia. Also member, Slovenian Academy of Arts and Sciences. Received various awards including the Alexander von Humboldt Prize, and the Ambassador for Science of the Republic of Slovenia.

### **Richard A. Schneider**

#### **University of California, San Francisco (UCSF)**

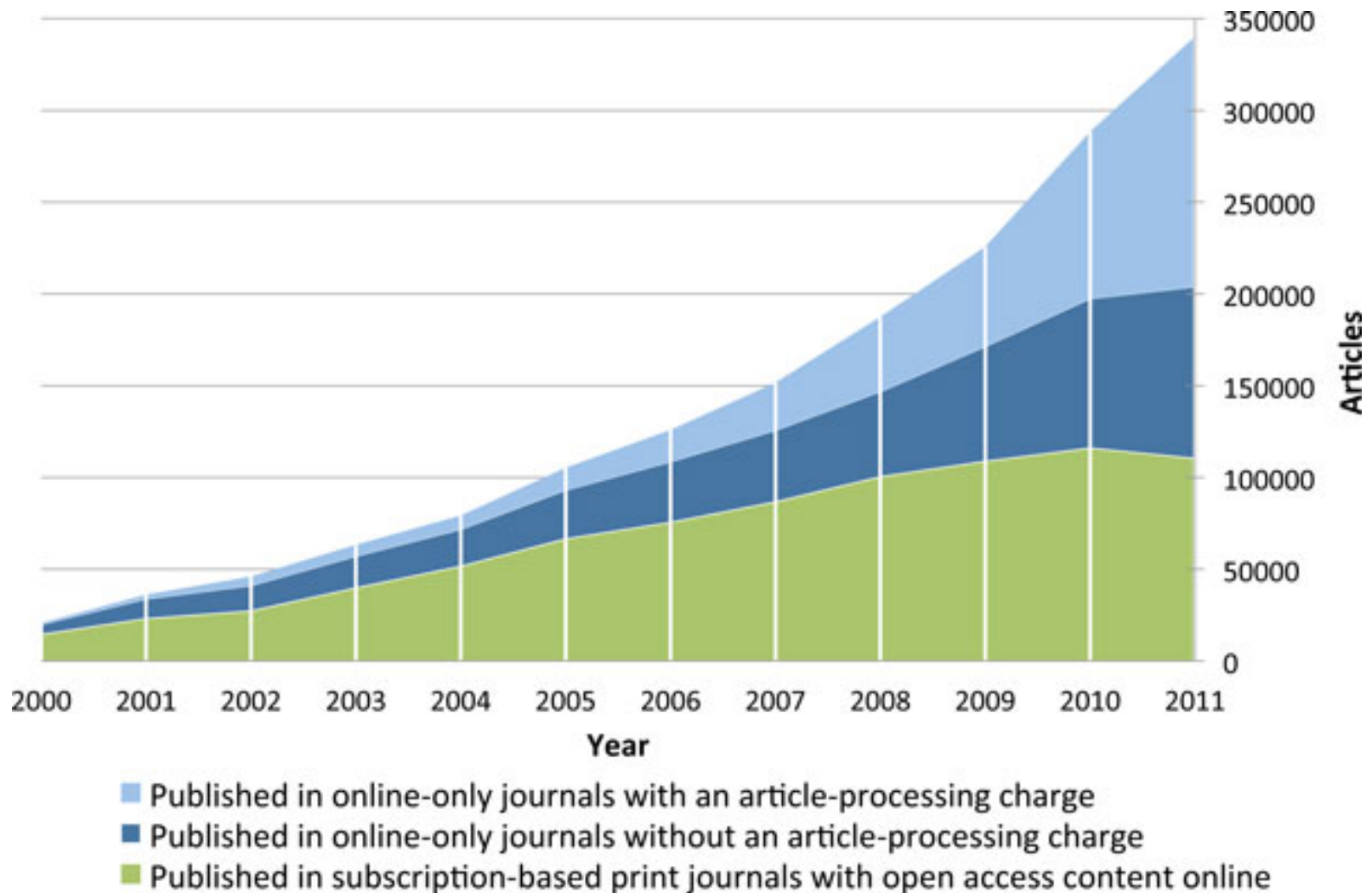
Associate Professor, Department of Orthopaedic Surgery, Director, Developmental and Stem Cell Biology Graduate Program, UCSF.

# What is Open Access?



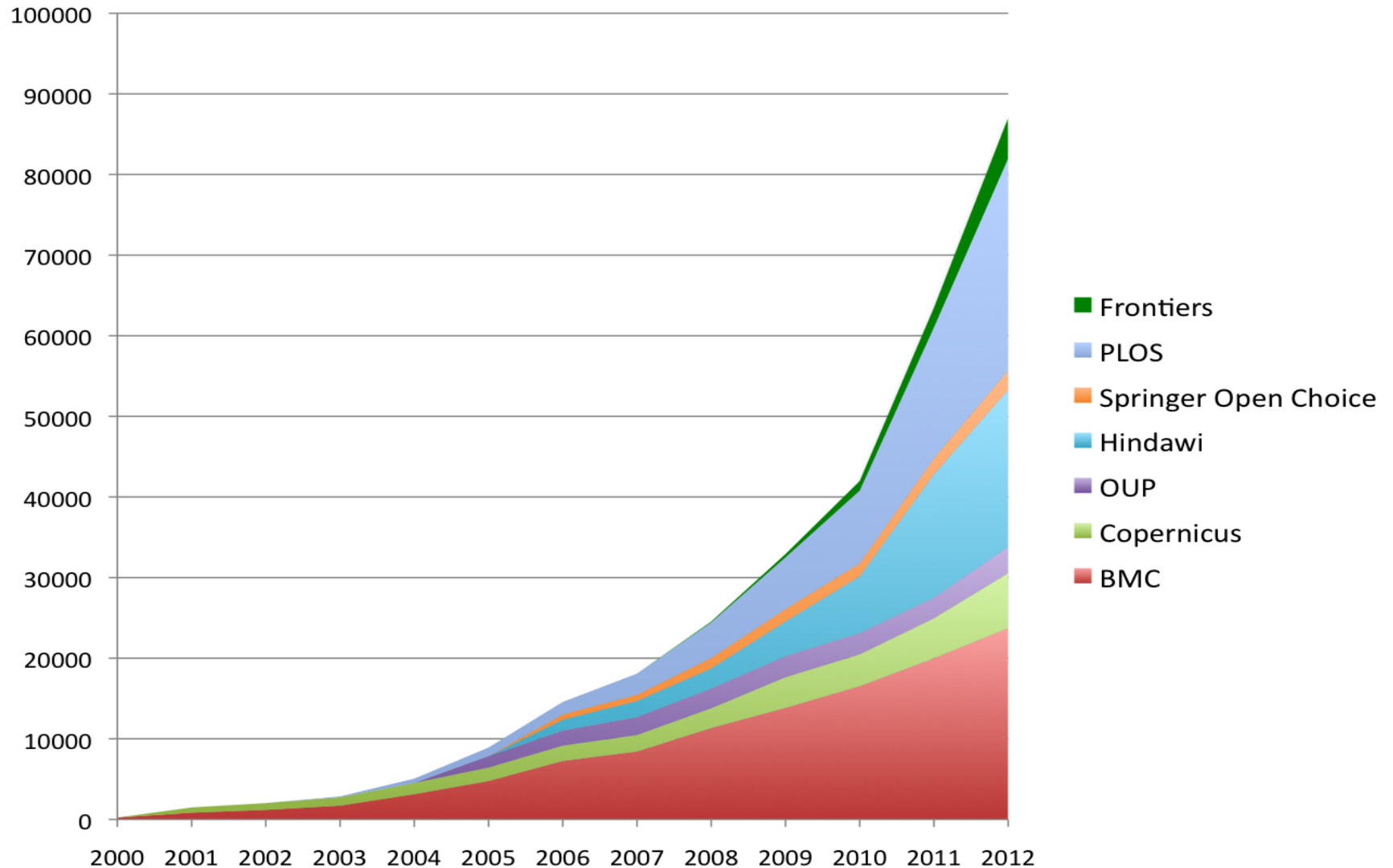
- The Bethesda Definition of Open Access (2003)
  - Free, immediate access
  - Deposition in a digital public archive
  - Unrestricted reuse

# Annual Article Output of all OA



Source: "Anatomy of open access publishing: a study of longitudinal development and internal structure", Laakso & Björk  
<http://www.biomedcentral.com/1741-7015/10/124> (BMC Medicine, Oct 2012)

# Stacked area graph of the contribution of major 'APC' OA publishers (articles per year)



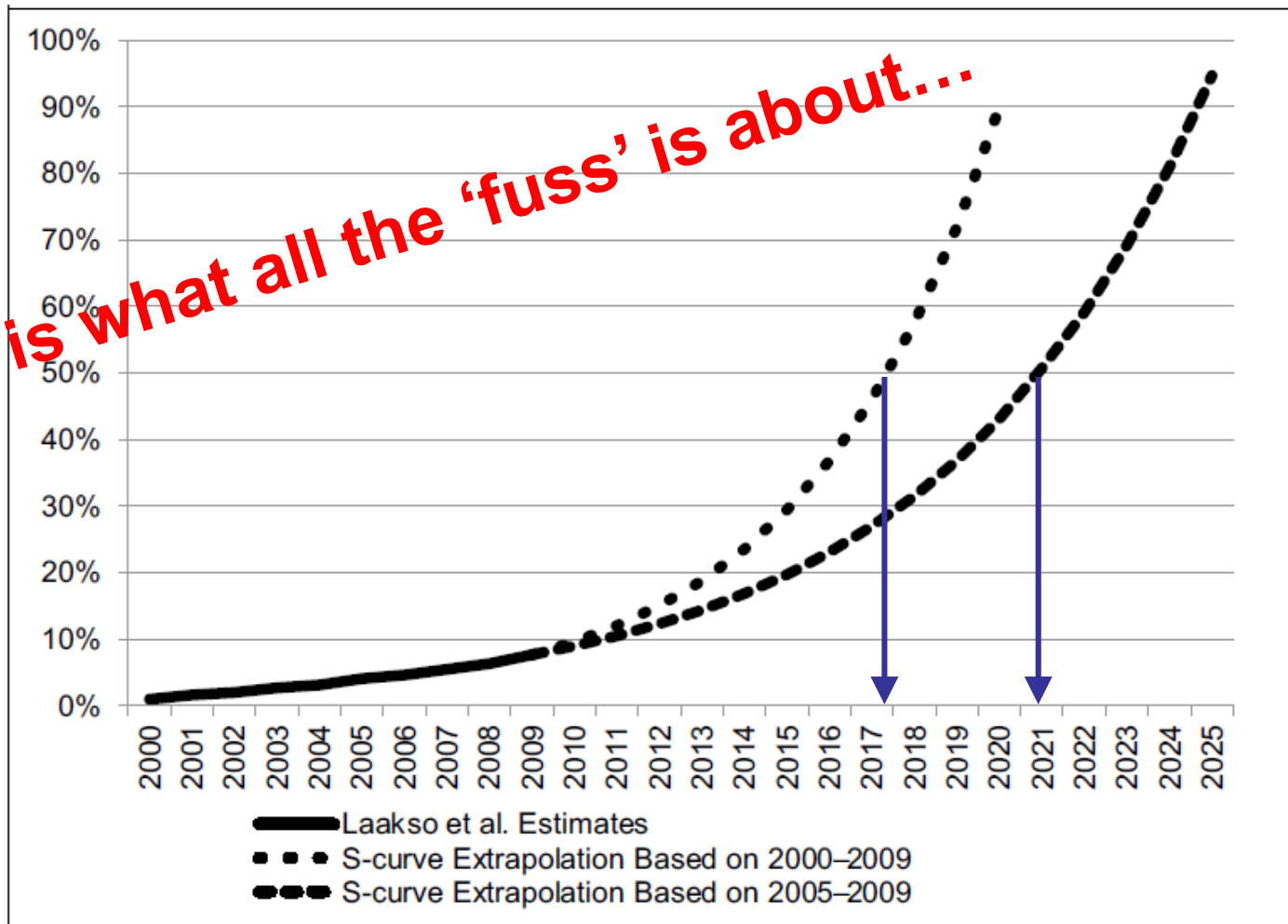
# Predicted 'Disruption Timeframe' of OA vs Subscription model

**TABLE 1**

**Pace of Substitution of Direct Gold OA for Subscription Journals**

	Laakso et al. Estimate	Extrapolation Based of 2000–2009	Extrapolation Based of 2005–2009
2000	1.0%		
2001	1.7%		
2002	2.0%		
2003	2.7%		
2004	3.1%		
2005	4.1%		
2006	4.7%		
2007	5.5%		
2008	6.4%		
2009	7.7%		
2010		9.6%	9.0%
2011		12.1%	10.5%
2012		15.1%	12.3%
2013		18.8%	14.4%
2014		23.6%	16.9%
2015		29.4%	19.7%
2016		36.8%	23.1%
2017		46.0%	27.0%
2018		57.5%	31.6%
2019		72.0%	36.9%
2020		89.9%	43.2%
2021			50.7%
2022			59.2%
2023			69.2%

**This is what all the 'fuss' is about....**



Source: "The Inevitability of Open Access", David Lewis

<http://crl.acrl.org/content/73/5/493.full.pdf+html> (College and Research Libraries, Sep 2012)



# What is Moving Open Access Forwards

## *Mandates*

- Funder Mandates
- Governmental Mandates
- Institutional Mandates

## *Growing Critical Mass and (Some) Awareness of Benefits*

- ~15%-20% of all published content is OA
- PLOS ONE now the 3<sup>rd</sup> most cited journal in the world and published 2% of the literature in 2012
- There are 'self evident' benefits to exposure, citations, speed, usage etc

## *Innovation*

- New products
- New functionality
- New ways of thinking



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# The NIH Public Access Policy

- More than 2.7 million full text articles are now available through PubMed Central (adding ~200K/yr).
- More than 700,000 unique users access those articles - *every day*.
- More than 2/3rds of the users come from outside of the academic community.
- Over 80% of eligible researchers comply.
- Policy is cost effective – less than 1/100<sup>th</sup> of 1% of NIH's overall operating budget.

# “The Fair Access to Science and Technology Act”

New Legislation has been proposed (and an Executive Directive is now in place) for the expansion of the NIH Policy to all other U.S. Federal Science Agencies

This directive (Feb 22<sup>nd</sup>) applies to 23 U.S. Departments and Agencies that fund >\$100M in research per year.



The screenshot shows the official website of the White House Office of Science and Technology Policy (OSTP). The header includes the White House logo and navigation links such as 'BLOG', 'PHOTOS & VIDEO', 'BRIEFING ROOM', 'ISSUES', 'the ADMINISTRATION', 'the WHITE HOUSE', and 'our GOVERNMENT'. A search bar is located on the right side of the header.

The main content area features a blue banner with the OSTP logo and the text 'Office of Science and Technology Policy'. Below this, a navigation bar lists various sections: 'About OSTP', 'OSTP Blog', 'Pressroom', 'Divisions', 'R&D Budgets', 'Resource Library', 'NSTC', 'PCAST', and 'Contact Us'.

The featured article is titled 'Expanding Public Access to the Results of Federally Funded Research' in red text. It is posted by Michael Stebbins on February 22, 2013 at 12:04 PM EDT. The article text begins with: 'The Obama Administration is committed to the proposition that citizens deserve easy access to the results of scientific research their tax dollars have paid for. That's why, in a policy memorandum released today, OSTP Director John Holdren has directed Federal agencies with more than \$100M in R&D expenditures to develop plans to make the published results of federally funded research freely available to the public within one year of publication and requiring researchers to better account for and manage the digital data resulting from...'.

On the right side of the page, there is a green button that says 'GIVE FEEDBACK ABOUT THIS PAGE' and a section titled 'YOUR FEDERAL TAXPAYER RECEIPT' with a 'Launch the Receipt' button.

## G8 science ministers endorse open access

13 JUNE 2013 | BY JACK GROVE

Science ministers from the G8 group of the world's richest countries have jointly endorsed the need to increase access to publicly-funded research.

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In a joint statement proposing “new areas” of scientific collaboration for the countries, the ministers say they “recognise the potential benefits of immediate global access to and unrestricted use of published peer-reviewed, publicly funded research results”.



## 2012 UC Open Access Policy

On May 21, 2012, the UCSF Academic Senate voted unanimously to adopt an open access policy. Preliminary materials can be found on the UCSF library's [UCSF Open Access Policy information page](#).

See the latest information on [fulfilling the UCSF policy](#), [the policy options](#), and [FAQ](#).

The system-wide faculty Senate is now considering an Open Access Policy for the University of California. All of the materials can be found below. If you have any questions, suggestions, or ideas please forward them to [your campus COLASC representative](#).

- [Letter from Academic Council Chair Robert Powell to Provost Aimee Dorr](#) (April 11, 2013)
- [Letter from UCOLASC Chair Chris Kelty to Academic Council Chair Bob Powell](#) (March 22, 2013)
- [Revised Draft of Proposed Open Access Policy for the University of California - Clean](#) (March 20, 2013)
- [Revised Draft of Proposed Open Access Policy for the University of California with annotations and differences](#) (March 20, 2013)
- [Request for Systemwide Review - Letter to Academic Senate Divisions and Standing Committees](#) (August 9, 2012)
- [Open Access Policy Cover Letter](#) (July 16, 2012)
- [Final Draft of Proposed Open Access Policy for the University of California](#) (2012)
- ["An Open Access Policy for the University of California," Presentation by Christopher Kelty, UCOLASC Chair](#) (July 2012)
- [Proposed UC Open Access Policy: Questions and Concerns](#) (July 2012)
- [An Open Access Policy for the University of California: Additional Frequently Asked Questions](#) (July 2012)



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## California Open Access Bill Clears Committee

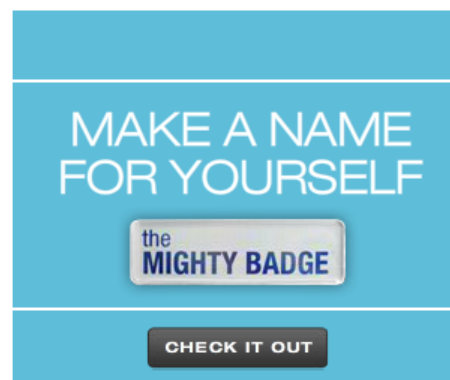
By [Meredith Schwartz](#) on May 9, 2013 [Leave a Comment](#)

A bill which would require California-funded research to be deposited in open access repositories passed the state's Assembly Accountability and Administrative Review Committee on May 1.

Assemblyman Brian Nestande (R-Palm Desert) [introduced](#) the bill, which was the brainchild of California Council on Science & Tech Fellow Annabelle Kleist, who works in Nestande's office. Kleist said she contacted Heather Joseph, Executive Director of the Scholarly Publishing and Academic Resources Coalition (SPARC), who put her in contact with people who could help shape the proposal.

Joseph told *LJ*, "Annabelle had all the right instincts in developing the proposed CA State Open Access legislation. Her personal experience in running into barriers as she tried to access research articles was a powerful driver. She was looking for examples of existing legislative approaches to try and address this issue, and of course we had some good solid ones to share – including the recently introduced Fair Access to Science and Technology Research (FASTR) Act on the National level. It was very encouraging to also see that the same drivers that draw support for Open Access policies on the national level – acceleration of scientific discovery, innovation and economic growth- were strong drivers on the State level, as well."

"California's taxpayers fund this research and they have a right to expect that the results are available and accessible. If we want California to remain at the forefront of cutting-edge discoveries and



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AMENDED IN ASSEMBLY MAY 9, 2013

AMENDED IN ASSEMBLY APRIL 23, 2013

AMENDED IN ASSEMBLY APRIL 1, 2013

CALIFORNIA LEGISLATURE—2013–14 REGULAR SESSION

**ASSEMBLY BILL**

**No. 609**

**Introduced by Assembly Member Nestande  
(Coauthors: Assembly Members Beth Gaines, Maienschein,  
and Olsen, and Skinner)**

February 20, 2013





What's good  
enough  
for Harvard  
good enough  
for UP!

What's good  
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for UP!

What's good  
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What's good  
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is good enough  
for UP!



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# New Products



2006

PeerJ

Early 2013

ImpactStory.

2012

F1000Research

2012

PeerJ PrePrints

2013

PLOS | CURRENTS

2009

figshare

2011

Rubriq  
independent peer review forum

2013

bioRxiv  
THE PREPRINT SERVER FOR BIOLOGY

2013

BMJ  
open

2011

International Scholarly Research Network

2010





# PeerJ

Measuring the distribution of benthic communities at remote Pacific coral reefs.

FEATURED IMAGE INFO

Kingman Reef and Palmyra Atoll in the central Pacific are among the most remote coral reefs on the planet. New research describes spatial patterns in their benthic communities across reef habitats and depths, and considers these in the context of oceanographic gradients. Read More in this peer reviewed article by Williams *et al* published on May 28, 2013.

**\$391,977**

Research funding saved per year

**801**

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**100%**

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Three reasons why Nature has called PeerJ, "a significant innovation" for academics. - [more reviews](#)

## The PeerJ Mission

PeerJ is an Open Access publisher that makes **access to research free to all** and affordable to publish for academic authors & their institutions.

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PeerJ provides academics with two Open

## FEATURED ARTICLE

### Determinants of neonatal mortality in rural India.

MAY 28, 2013 - 98% of all neonatal deaths occur in developing countries. In a study of over 170,000 live births, this peer reviewed article by Singh *et al* investigates neonatal death in rural areas in India. Conclusions are drawn that should be considered by any public health intervention programs operating in rural areas worldwide. [Read more](#)



Who we are

What we believe

Our publications

Endorsements

Reviews

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## What we believe

**If we can set a goal to sequence the Human Genome for \$99,  
then why shouldn't we demand the same goal for the publication of research?**

### Keep Innovating

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Great for  
graduate students

Create my Basic Plan

### Enhanced Plan

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LIFETIME

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[See FAQ below](#)

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post-docs

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(most popular)

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Unlimited private preprints

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lab heads & high-volume authors

Create my Investigator Plan

- 1 Every author must have a membership plan in order to publish. See [author number FAQ](#) below for more info.
- 2 Your plan is good for life, so long as you perform a yearly review. See [reviewing FAQ](#) below for more info.





# Science**Insider**

Breaking news and analysis from the world of science policy

## New Open Access Journal Lets Scientists Publish 'til They Perish

by Kai Kupferschmidt on 12 June 2012, 2:03 PM | [1 Comment](#)



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3



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It is common for phone and Internet companies to charge customers a flat rate for service. Now, an unusual new open access scientific journal is offering researchers the ultimate publishing flat rate: Pay \$259 once and publish as many papers as you want for the rest of your life. The founders of [PeerJ](#), a peer-reviewed biomedical journal [unveiled today](#), are aiming to start accepting submissions in August and to publish their first articles in December.

"I have been waiting for things like this," says Jonathan Eisen, a microbiologist at the University of California, Davis, and an advocate for open access. "We need publishers who experiment."

[ENLARGE IMAGE](#)



# PeerJ



## PeerJ

- A broad based journal in the biological and medical sciences, judging submissions only on technical and scientific validity
- Fully peer reviewed, with rapid review process handled by a large editorial board of 800, including 5 Nobel Laureates
- Built with 'born digital' functionality
- Operates an 'optional open peer review' process
- Provides engagement metrics to incentivize 'good' behavior
- Full suite of Article Level Metrics
- Members incentivized to participate in the peer review process
- Provides DOIs, is archived, is indexed, rich metadata etc

## PeerJ PrePrints

- A preprint server for the biological and medical sciences
- Preprint content is NOT peer reviewed
- Includes versioning functionality
- Engagement and commenting linked to reputation metrics
- An experimental space where new features & functionalities can be tried out
- Provides DOIs, is archived, is indexed, rich metadata etc



## *The Academic's Experience*

- A 'complete lifecycle' experience
- One time fee to publish forever
- Users are valued as individuals
- Single sign on, consistent user interaction
- Clear 'user friendly' interfaces
- Attractive presentation throughout
- User profiles provide recognition of varied contributions
- Rapid, smooth, respectful processes
- Reviewers are rewarded; undergraduates publish for free; there are fee waivers etc
- "We want authors spending their time doing science, not formatting."
- Despite the low price, nothing is compromised



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Introduction

Methods

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Additional Information and Declarations

Peer Review history

Subject areas

Neuroscience

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# Perceptual elements in Penn & Teller's "Cups and Balls" magic trick

Hector Rieiro<sup>1,2,3</sup>, Susana Martinez-Conde<sup>2</sup>, Stephen L. Macknik<sup>1,2</sup>

PubMed ID: 23638353

## Author and article information

## Abstract

Magic illusions provide the perceptual and cognitive scientist with a toolbox of experimental manipulations and testable hypotheses about the building blocks of conscious experience. Here we studied several sleight-of-hand manipulations in the performance of the classic "Cups and Balls" magic trick (where balls appear and disappear inside upside-down opaque cups). We examined a version inspired by the entertainment duo Penn & Teller, conducted with three opaque and subsequently with three transparent cups. Magician Teller used his right hand to load (i.e. introduce surreptitiously) a small ball inside each of two upside-down cups, one at a time, while using his left hand to remove a different ball from the upside-down bottom of the cup. The sleight at the third cup involved one of six manipulations: (a) standard maneuver, (b) standard maneuver without a third ball, (c) ball placed on the table, (d) ball lifted, (e) ball dropped to the floor, and (f) ball stuck to the cup. Seven subjects watched the videos of the performances while reporting, via button press, whenever balls were removed from the cups/table (button "1") or placed inside the cups/on the table (button "2"). Subjects' perception was more accurate with transparent than with opaque cups.

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Usage

Share

Usage since published - updated daily

### Social referrals unique visitors

Twitter	256
Google+	30
Facebook	88
LinkedIn	5
Reddit	543
Slashdot	52

### Alt metrics

**ImpactStory.**

discussed by scholars

discussed by public

saved by public

### Top referrals unique visitors

From bookmark or typed URL	552
----------------------------	-----

Close

perception was more accurate with transparent than with opaque cups. Perceptual performance was worse for the conditions where the ball was placed on the table, or stuck to the cup, than for the standard maneuver. The condition in which the ball was lifted displaced the subjects' gaze position the most, whereas the condition in which there was

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Recommend

74 people recommend this. Sign Up to see what your friends recommend.

Share 22

### Reference managers

Save to Mendeley

Read in ReadCube

Close

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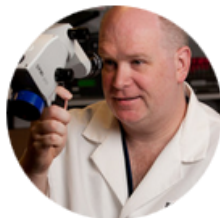
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# Stephen L Macknik

@Macknik

335

Academic contribution ([what's this?](#))

By role

335

PeerJ author

By subject area

335

Neuroscience

## Director, Laboratory of Behavioral Neurophysiology - Barrow Neurological Institute

Stephen L. Macknik trained as a postdoc with Zachary Mainen at Cold Spring Harbor Laboratory, and David Hubel at Harvard Medical School. He has a BA in Psychobiology, Biology and Psychology from the Univ of California, Santa Cruz, and a PhD in Neurobiology from Harvard Univ, with Margaret Livingstone. His research seeks to understand the neural underpinnings of visual awareness and attention, and the neural consequences of cerebral blood flow in the healthy brain and in neurological disorders.

Neuroscience Ophthalmology Psychiatry & Psychology

### Work details

Institution: [Barrow Neurological Institute](#) (Neurosurgery and Neurobiology)

### Websites

[Illusion Chasers Blog](#) @ Scientific American  
[Sleights of Mind](#)

## Articles published in PeerJ

### [The effects of fixation target size and luminance on microsaccades and square-wave jerks](#)

February 12th, 2013

Michael B. McCamy, Ali Najafian Jazi, Jorge Otero-Millan, Stephen L. Macknik, Susana Martinez-Conde

### [Simultaneous recordings of ocular microtremor and microsaccades with a piezoelectric sensor and a video-oculography system](#)

February 12th, 2013

Michael B. McCamy, Niamh Collins, Jorge Otero-Millan, Mohammed Al-Kalbani, Stephen L. Macknik, Davis Coakley, Xoana G. Troncoso, Gerard Boyle, Vinodh Narayanan, Thomas R. Wolf, Susana Martinez-Conde

### [Perceptual elements in Penn & Teller's "Cups and Balls" magic trick](#)

February 12th, 2013

Hector Rieiro, Susana Martinez-Conde, Stephen L. Macknik

# What is "Academic Contribution?"

Everyone from authors, editors, reviewers, and visitors to PeerJ are contributing in some way. Often, these are "hidden" contributions to the body of science that can go unrecognized. The points that we are starting to show on member profile pages are just a light way to surface this participation.



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## Which activities can I get points for, and how many points?

- Be an academic editor on a published *PeerJ* article = **100 pts**
- Be an author on a published *PeerJ* article = **100 pts**
- Make your manuscript reviews public on a *PeerJ* article = **35 pts**
- Submit an "open review" as a reviewer on a *PeerJ* article = **35 pts**
- Be an author on a *PeerJ PrePrint* = **35 pts**
- Have feedback deemed "very helpful" by an author of a *PeerJ PrePrint* = **15 pts**
- Receive an up vote for feedback on a *PeerJ PrePrint* = **5 pts**

We'll also add points to other types of contributions in the future.

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## ► Author and article information

## ▼ Abstract

Magic illusions provide the perceptual and cognitive scientist with a toolbox of experimental manipulations and testable hypotheses about the building blocks of conscious experience. Here we studied several sleight-of-hand manipulations in the performance of the classic "Cups and Balls" magic trick (where balls appear and disappear inside upside-down opaque cups). We examined a version inspired by the entertainment duo Penn & Teller, conducted with three opaque and subsequently with three transparent cups. Magician Teller used his right hand to load (i.e. introduce surreptitiously) a small ball inside each of two upside-down cups, one at a time, while using his left hand to remove a different ball from the upside-down bottom of the cup. The sleight at the third cup involved one of six manipulations: (a) standard maneuver, (b) standard maneuver without a third ball, (c) ball placed on the table, (d) ball lifted, (e) ball dropped to the floor, and (f) ball stuck to the cup. Seven subjects watched the videos of the performances while reporting, via button press, whenever balls were removed from the cups/table (button "1") or placed inside the cups/on the table (button "2"). Subjects' perception was more accurate with transparent than with opaque cups.



## Review History for [A non-cardiomyocyte autonomous mechanism of cardioprotection involving the SLO1 BK channel](#)

### Revision 2

 **Lai-Hua Xie** · Feb 19, 2013 · Academic Editor

ACCEPT

Congratulations on your excellent work!


 Download Revision 2 (PDF)  Download author's rebuttal letter

### Revision 1

 **Lai-Hua Xie** · Feb 18, 2013 · Academic Editor

MINOR REVISIONS

Please make any revisions following the comments from the Reviewer #1.

 **Anonymous Reviewer** · Feb 18, 2013 · Reviewer 1

#### Basic reporting

No comment.

#### Experimental design

Well executed experimental designs and protocols.

#### Validity of the findings

Highly supportive of the objective of the study.

#### Comments for the author

The revised article entitled "A non-cardiomyocyte autonomous mechanism of cardioprotection involving the SLO1 BK channel" by Wojtovich et al. has satisfactorily addressed by the authors. My concerns of the first submission have been satisfactorily addressed in the revision and the article is highly improved. There are few minor concerns to be addressed

In the Material and Method section, having periods/full stop after every time a time value or volume is given, e.g. 40 min. is distracting. Remove all such punctuations.

Page 6 first paragraph lines 5-6 "...then 1 hr ischemia buffer, 30 min normoxic buffer." Add to this sentence "followed by 30 min normoxic buffer."

Page 13 under Discussion 2nd paragraph lines 5-7, the authors should also acknowledge that other studies have reported that NS1619 induces ROS production without change in mitochondrial membrane potential and that its protection against ischemia reperfusion injury in the isolated perfused heart model may be mediated in part by mitochondrial-dependent reactive oxygen species mechanism.

Page 6 3rd paragraph line 8 "...an functional splice..." Change "an" to "a".

 **Ken Takahashi** · Feb 15, 2013 · Reviewer 2

#### Basic reporting

Reporting is tactful and accurate.

#### Experimental design

No Comments

#### Validity of the findings

The discussion is well balanced.

#### Comments for the author

This research is very intriguing in that it implies an active role of the cardiac neuronal system in responses to ischemia. I am looking forward to having new finding regarding this topic.

 Download Revision 1 (PDF)  Download author's rebuttal letter



35

Academic contribution ([what's this?](#))

## By role

35

Reviewer

## By subject area

35

Cardiology

35

Biochemistry

# Ken Takahashi

@spacevet

## Assistant Professor - Okayama University

During his doctorate Dr. Takahashi conducted researches on cold pain sensation with electrophysiological single nerve recording, and analysis of mechanical stress in the human body with finite element analysis. After graduation he conducted research on mechanosensitive ion channels expressed on cardiac myocytes with a combination of patch clamp recording, calcium imaging and molecular biology. Concurrently, he studied coarse grained molecular dynamics simulation.

Cardiology

Biophysics

## Work details

**Institution:** [Okayama University](#) (Graduate School of Medicine Dentistry and Pharmaceutical Sciences)

## Websites

[Facebook](#)[Personal Web](#)

## Reviews submitted for articles published in PeerJ

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[A non-cardiomyocyte autonomous mechanism of cardioprotection involving the SLO1 BK channel](#)

March 5th, 2013





170

Academic contribution ([what's this?](#))

## By role

135

PeerJ author

35

Reviewer

## By subject area

170

Zoology

170

Paleontology

170

Evolutionary Studies

# Mathew John Wedel

@MathewWedel

## Assistant Professor - Western University of Health Sciences

I am a vertebrate paleontologist, and my main areas of interest are sauropod dinosaurs and the evolution of pneumatic (air-filled) bones in dinosaurs and birds. I study the evolutionary origin of pneumatic bones in archosaurs, the respiratory systems of sauropods and other dinosaurs, and the evolution of large size and long necks in sauropods. I am currently an Assistant Professor at Western University of Health Sciences in Pomona, California, where I teach gross anatomy.

Paleontology

Zoology

Anatomy &amp; Physiology

Taxonomy

Evolutionary Studies

## Work details

**Institution:** [Western University of Health Sciences](#) (Department of Anatomy)

## Websites

- [10 Minute Astronomy](#) (my stargazing blog)
- [CV and publications](#)
- [FigShare](#)
- [Google Scholar](#)
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- [Sauropod Vertebra Picture of the Week](#)

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February 12th, 2013

Michael P. Taylor, Mathew J. Wedel

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Rodrick Wallace, Deborah Wallace

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Drugs and Devices, Epidemiology, Evidence Based Medicine, Health Policy, Public health

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Rodrick Wallace

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# Magic Strategies: the basic biology of multilevel, multiscale, health intervention

Rodrick Wallace , Deborah Wallace

## Author and article information

## Abstract

A survey of the cultural psychology and related literatures suggests that Western biomedicine's fascination with atomistic, individual-oriented, interventions is a cultural artifact that may have little consonance with complex, subtle, multiscale, multilevel, social, ecological, or biological realities. Other cultural traditions may, in fact, view atomistic strategies as inherently unreal. A contrary perspective suggests that the most effective medical or public health interventions must be analogously patterned across scale and level of organization: 'magic strategies' will almost always be synergistically - and often emergently - more effective than 'magic bullets'. The result can be formally derived in a relatively straightforward manner using an adaptation of the Black-Scholes econometric model, applied here to the metabolic cost of bioregulation under uncertainty. Multifactorial interventions focused at the human 'keystone' ecosystem level of mesoscale social and geographic groupings may be particularly effective.

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## Subject areas

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Biogeography

Bioinformatics

Genomics

Microbiology

Ontario program. This project was funded by the Government of Canada through Genome Canada and the Ontario Genomics Institute through the Biomonitoring 2.0 project (OGI-050: see <http://biomonitoring2.org>) and grant number 2009-OGI-ABC-1405. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

## Feedback and replies

20 days ago - [Alessandro Sarretta](#)

In the Introduction you mention "Beiko et al. 2008", but there's no corresponding bibliography in the References section.



0

20 days ago - [Robert Beiko](#)

Thank you for pointing this out! The reference is for a 2008 paper in the Free and Open Source Geospatial conference, which you can see at: <http://kiwi.cs.dal.ca/GenGIS>  
[image Beiko\\_et\\_al\\_FOSS4G\\_Final.pdf](#)

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# What is Holding Open Access Back?

- Evaluation processes that value the wrong things
- An outdated attitude towards perceived ‘prestige’
- Lack of awareness when making publication decisions

# My Predictions

- Open Access will rapidly replace the subscription
  - by 2017, 50% of content will be OA
- Prices will come down but 'features' will increase
- New businesses and new business models will evolve to take advantage of OA content

Thank You

Pete Binfield  
Co-Founder and Publisher

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