C O P E 20TH ANNIVERSARY
1997-2017

Current Issues in Peer Review

COPE Webinar
14 September 2017

Guest speakers:
Tony Ross-Hellauer Scientific Manager OPENAire2020 project, University of Göttingen
Jessica Polka Director of ASAPbio **& Samantha Hindle** ASAPbio Ambassador
Elizabeth Moylan Senior Editor Research Integrity, BMC and COPE Council Member

Moderator:
Heather Tierney Managing Editor Journals and Ethics Policy, American Chemical Society and COPE Council Member

#PeerRevWk17

publicationethics.org

COPE Webinar: Current issues in Peer Review

Heather Tierney

Managing Editor Journals and Ethics Policy, American Chemical Society

COPE Council Member

Tony Ross-Hellauer

Scientific Manager OpenAIRE2020 project, University of Göttingen

Jessica Polka & Samantha Hindle

Jessica is Director of ASAPbio

Sam is an ASAPbio Ambassador

Elizabeth Moylan

Senior Editor *Research Integrity BMC*

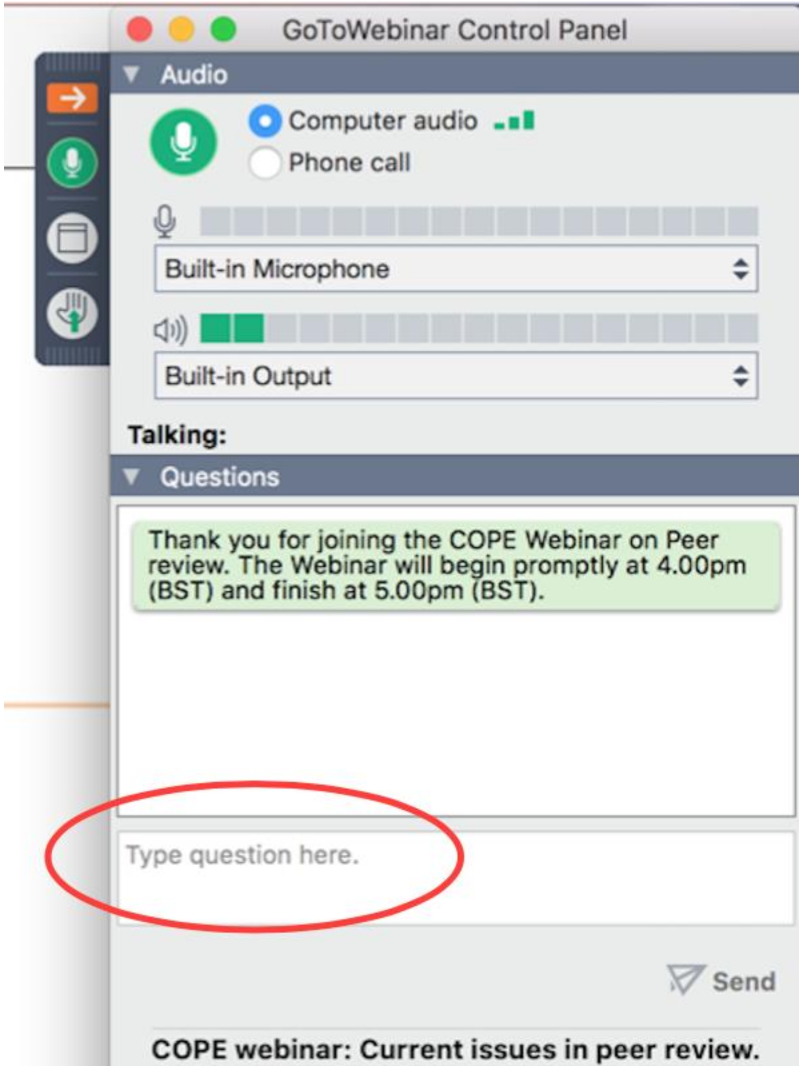
COPE Council Member

Webinar overview

- Introduction: current issues in peer review & COPE resources
- Presentations by guest speakers
- Discussion (Q/A): **please type your questions in the Question Box** *(not the Chat Box)*

Recording & summary report will be uploaded to COPE website

COPE Webinar: Current Issues in Peer Review



● Computer audio
○ Phone call

Built-in Microphone

Built-in Output

Talking:

Thank you for joining the COPE Webinar on Peer review. The Webinar will begin promptly at 4.00pm (BST) and finish at 5.00pm (BST).

Type question here.

COPE webinar: Current issues in peer review.

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Current Issues in Peer Review

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14 September 2017

Lightning Poll 1

Current issues

- What is meant by transparency and openness in peer review?
- What is the role for peer review surrounding preprints?
- How could this relate to peer review in journals?
- What are the main issues in peer review that are brought to COPE for advice?
- Is there need for further guidance?

Current Issues in Peer Review

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Lightning Poll 2

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Opening Peer Review

Tony Ross-Hellauer,
Scientific Manager OpenAIRE2020 project,
University of Göttingen

#PeerRevWk17

Tony Ross-Hellauer

State and University Library
Göttingen

Know-Center GmbH

@tonyR_H
@openaire_eu

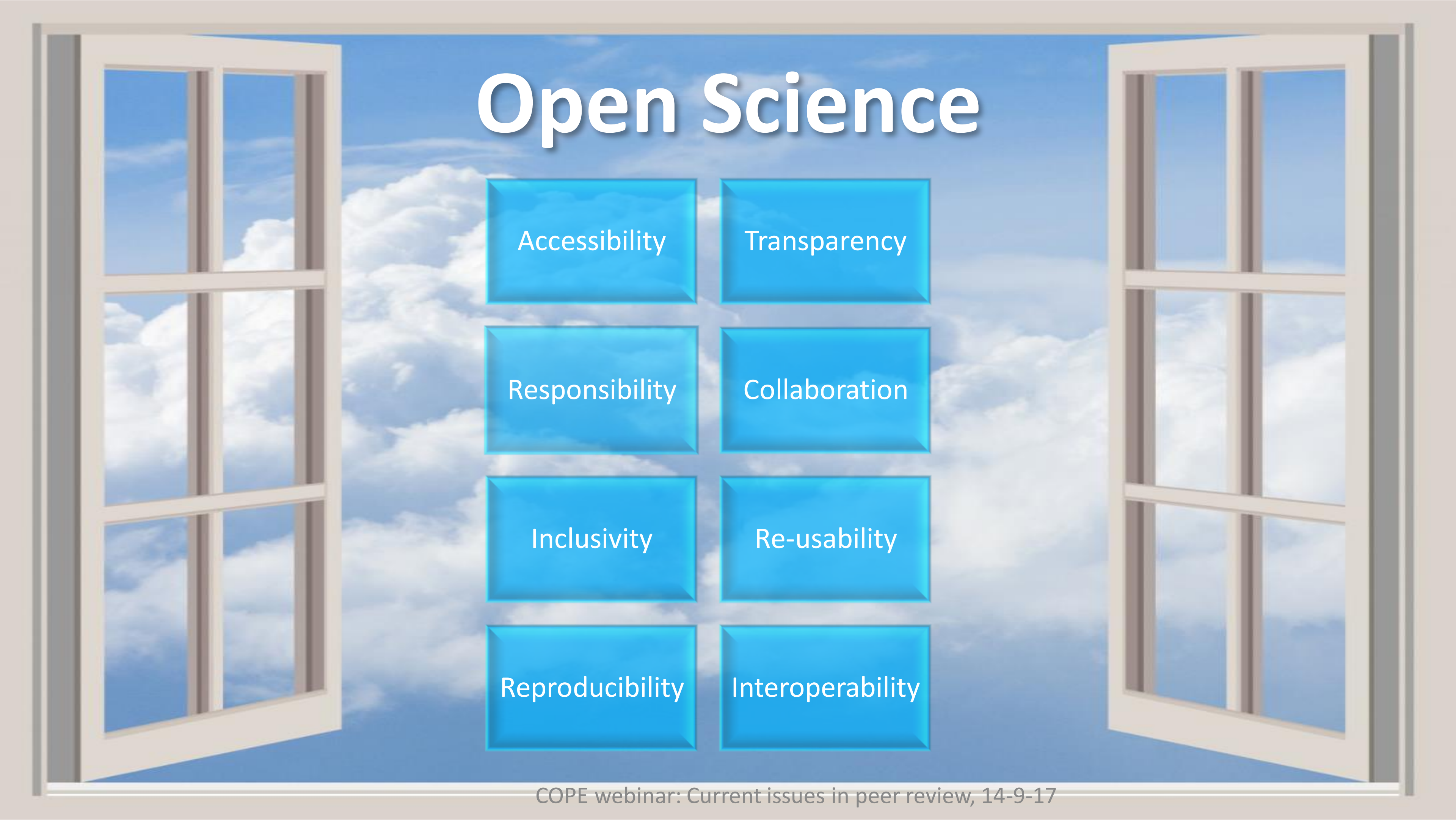
Opening Peer Review

COPE webinar: Current issues in peer review
#PeerRevWk17, 14 Sept 2017

Q. Why Open Peer Review?

A. We know that traditional peer review has problems …

- Time
- Accountability
- Bias
- Incentive
- Wasted effort



Open Science

Accessibility

Transparency

Responsibility

Collaboration

Inclusivity

Re-usability

Reproducibility

Interoperability

Open Science

- Accessibility
- Transparency
- Responsibility
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- Reproducibility
- Interoperability

“Open Peer Review” encompasses diverse constellations of many distinct aspects

** 122 definitions collected and analysed **
** 22 distinct configurations of 7 traits identified **

Primary aspects

- **Open identities**
- **Open reports**
- **Open participation**

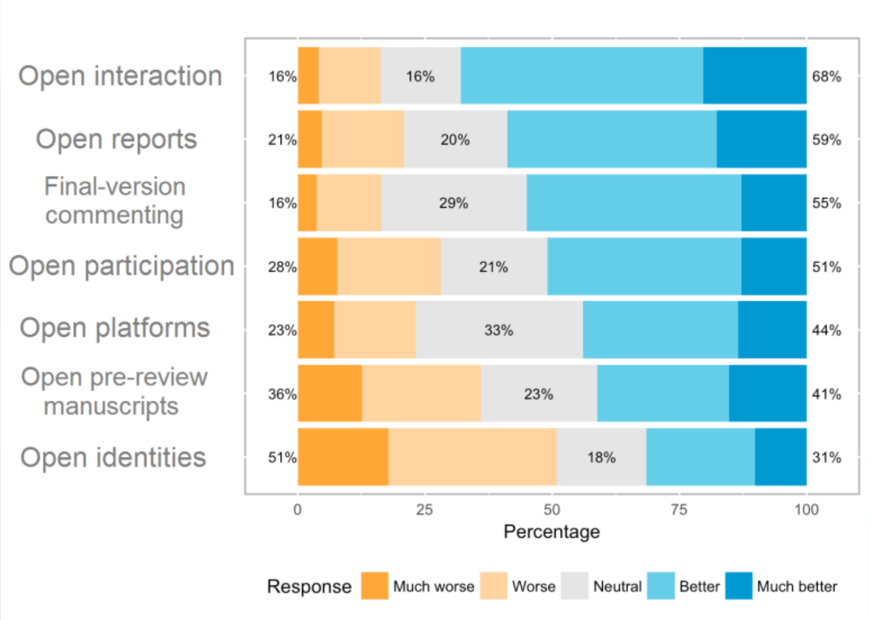
Secondary aspects

- **Open interaction**
- **Open pre-review manuscripts**
- **Open final-version commenting**
- **Open platforms**

Image CC BY AC McCann, w/ amendment (by me)

See: Ross-Hellauer, 2017, "What is open peer review? A systematic review", F1000Research (DOI: 10.12688/f1000research.11369.2)

“Will ”X“ make peer review better, worse, or have no effect?”



See: Ross-Hellauer, Deppe & Schmidt, 2017, "OpenAIRE survey on open peer review: Attitudes and experience amongst editors, authors and reviewers" (preprint) (DOI: 10.5281/zenodo.570864)

- **Focus groups on aspects of OPR**
  - **Very heterogeneous views on what OPR is**
  - **No one-size-fits-all: we must respect stakeholder views and cultural differences**
- **Online survey of 3,062 authors, reviewers and editors (Sep-Oct 2016)**
  - **OPR is already mainstream**
    - **76.2% have practical experience**
    - **60% believe OPR should be common practice**
  - **Positive reactions to most OPR traits (esp. open interaction, reports, participation)**
  - **However, strong rejection of open identities (47.7% against)**

Next Steps

- **OPR is a very complex issue – what should be made open, in which circumstances, at what stage, to whom?**
  - "The large number of possible configurations of options presents a tool-kit for differing communities to construct open peer review systems that reflect their own needs, preferences and goals." (Ross-Hellauer, 2017)
- **We need more evidence to help judge!**
  - "[T]here is often little evidence to support or refute many of these claims [regarding OPR]" (Ross-Hellauer, 2017)
- **What I think we need**
  - Open up the data!
  - Multi-stakeholder agreement on definitions and priorities for research
  - Cross-publisher/-journal studies on what works and what doesn't
  - See: http://blogs.lse.ac.uk/impactofsocialsciences/2017/09/13/open-peer-review-bringing-transparency-accountability-and-inclusivity-to-the-peer-review-process/

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Current Issues in Peer Review

COPE Webinar
14 September 2017

Lightning Poll 3

COPE 20TH ANNIVERSARY
1997-2017

Preprints & peer review

Jessica Polka
Director, ASAPbio
Visiting Scholar, Whitehead Institute
@jessicapolka

Sam Hindle
ASAPbio ambassador
Assistant Professional Researcher, UCSF
@HindleSamantha

#ASAPbio

Preprints make work available almost immediately

Preprint server

<48 hrs screening process

Public

Community feedback, ideas, discussion

Peer reviewed paper

Months to years

Private

Manuscript

Submit

Journal 1

Peer Review

Journal 2

Revise

Journal 3

Revise

Preprinting is growing rapidly in the life sciences

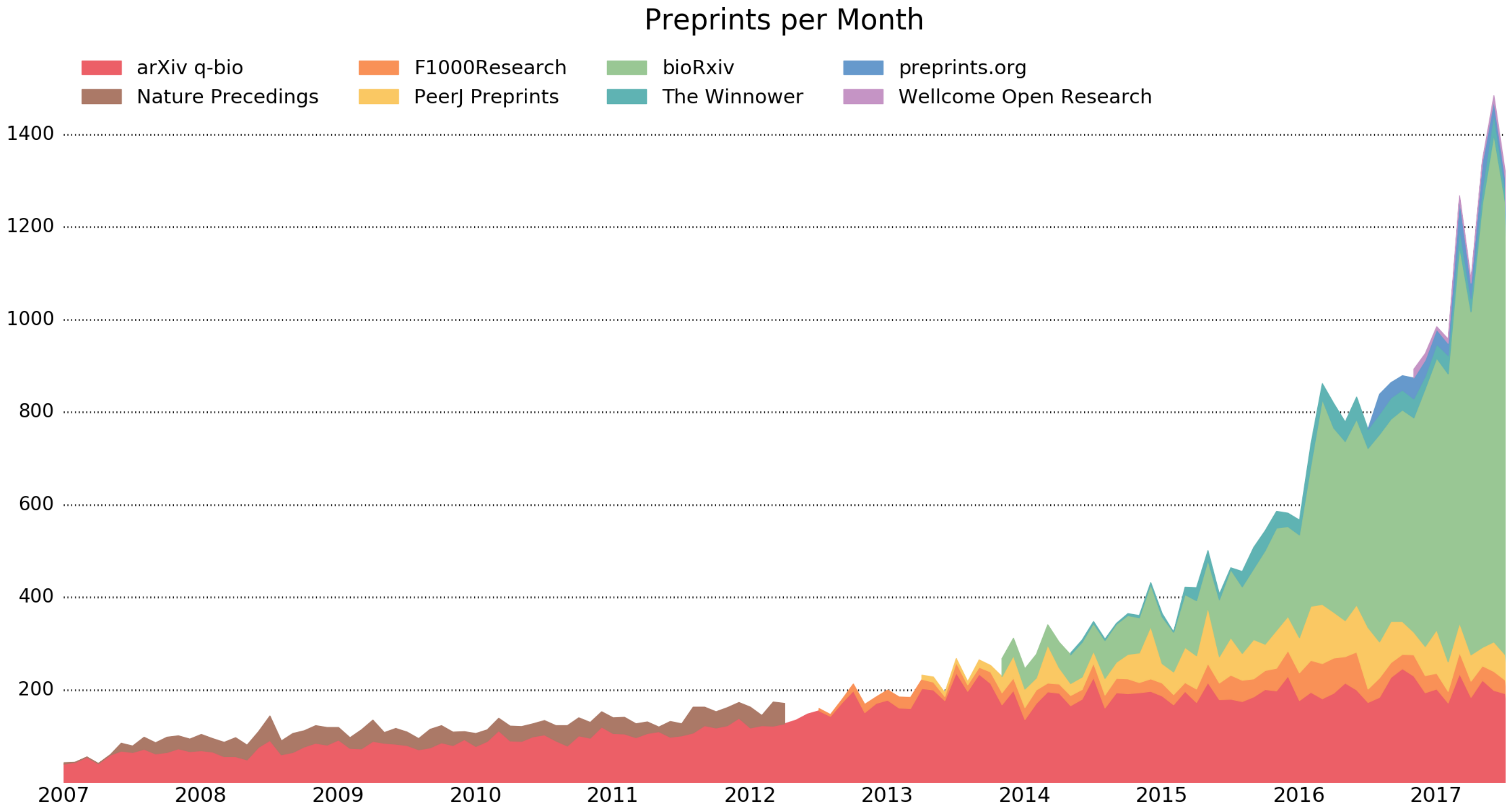


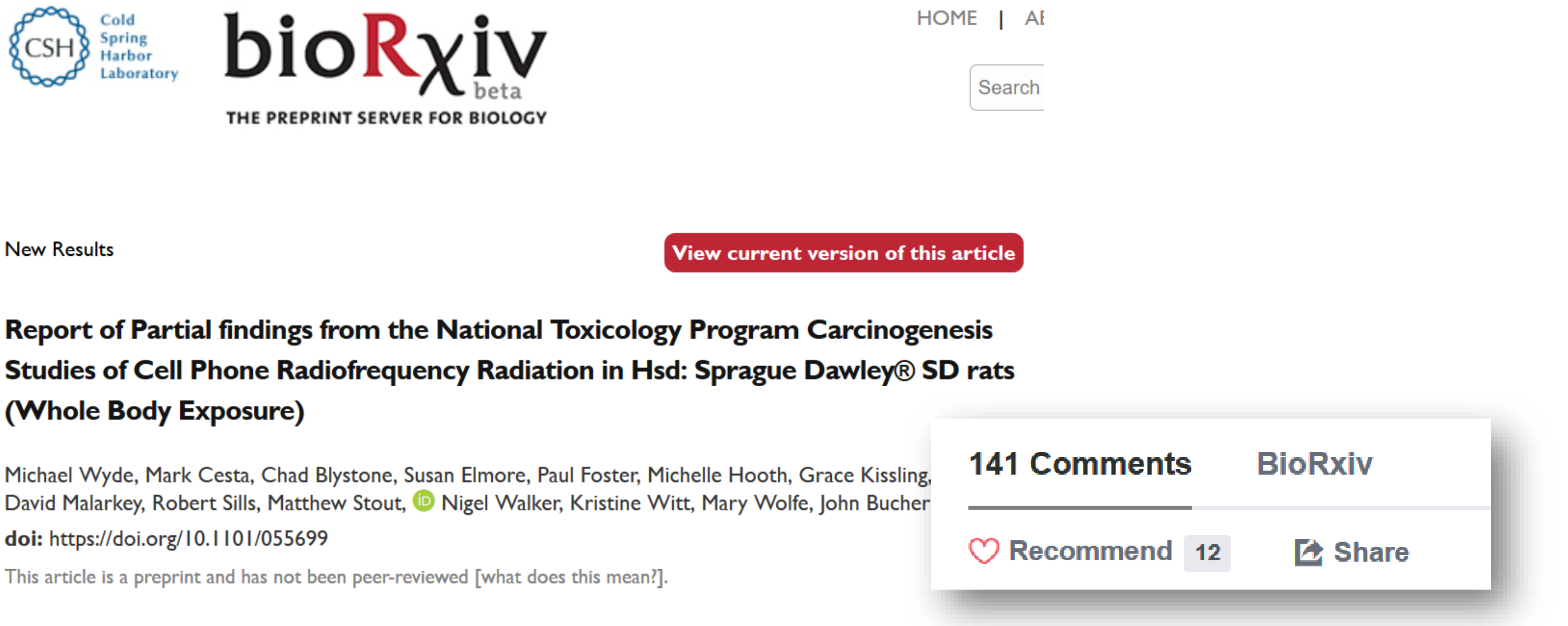
Chart by Jordan Anaya of prepubmed.org

Feedback: a major benefit of preprinting

- Email
- PubPeer
- Twitter (& Facebook)
- Directly on the preprint site
  - arXiv, COS, etc have no comments
  - ~10% of bioRxiv preprints have comments*
- Annotation (Hypothesis)
- Formal review sites (Academic Karma, Peer Community In…)
- Preprint journal clubs

* asapbio.org/biorxiv

Contentious papers get attention & feedback



New Results

Report of Partial findings from the National Toxicology Program Carcinogenesis Studies of Cell Phone Radiofrequency Radiation in Hsd: Sprague Dawley® SD rats (Whole Body Exposure)

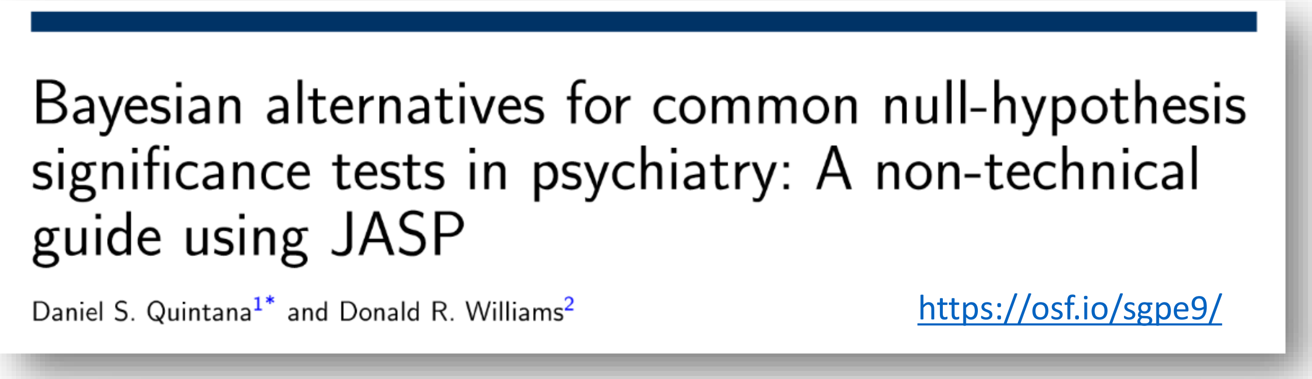
Michael Wyde, Mark Cesta, Chad Blystone, Susan Elmore, Paul Foster, Michelle Hooth, Grace Kissling, David Malarkey, Robert Sills, Matthew Stout, Nigel Walker, Kristine Witt, Mary Wolfe, John Bucher

doi: https://doi.org/10.1101/055699

This article is a preprint and has not been peer-reviewed [what does this mean?].

http://www.biorxiv.org/content/early/2016/05/26/055699

Feedback can be found all around the web



Bayesian alternatives for common null-hypothesis significance tests in psychiatry: A non-technical guide using JASP

Daniel S. Quintana[1]* and Donald R. Williams[2]

https://osf.io/sgpe9/

Daniel Quintana shared a link.

April 10

Just posted a preprint on Bayesian alternatives for common null-hypothesis significance tests that may be of interest to the group. Our goal was to put together a non-technical walkthrough using JASP for those unfamiliar with Bayesian alternatives. Would appreciate any feedback

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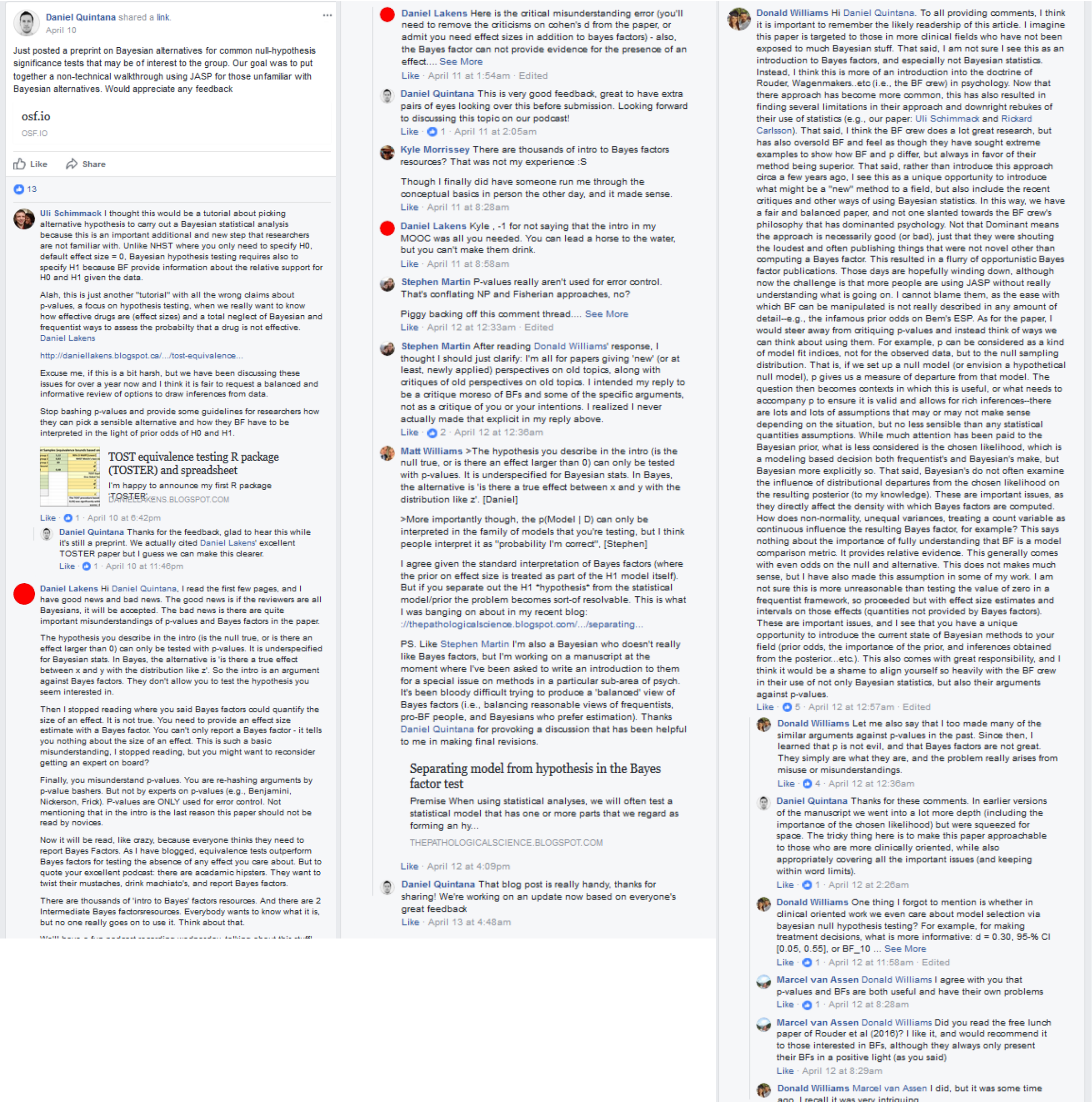
https://www.facebook.com/groups/853552931365745/permalink/1349684805085886/



Daniel Quintana shared a link.
April 10

Just posted a preprint on Bayesian alternatives for common null-hypothesis significance tests that may be of interest to the group. Our goal was to put together a non-technical walkthrough using JASP for those unfamiliar with Bayesian alternatives. Would appreciate any feedback

osf.io
OSF.IO

Uli Schimmack I thought this would be a tutorial about picking alternative hypothesis to carry out a Bayesian statistical analysis because this is an important additional and new step that researchers are not familiar with. Unlike NHST where you only need to specify H0, default effect size = 0, Bayesian hypothesis testing requires also to specify H1 because BF provide information about the relative support for H0 and H1 given the data.

Alah, this is just another "tutorial" with all the wrong claims about p-values, a focus on hypothesis testing, when we really want to know how effective drugs are (effect sizes) and a total neglect of Bayesian and frequentist ways to assess the probabilty that a drug is not effective. Daniel Lakens

http://daniellakens.blogspot.ca/.../tost-equivalence...

Excuse me, if this is a bit harsh, but we have been discussing these issues for over a year now and I think it is fair to request a balanced and informative review of options to draw inferences from data.

Stop bashing p-values and provide some guidelines for researchers how they can pick a sensible alternative and how they BF have to be interpreted in the light of prior odds of H0 and H1.

TOST equivalence testing R package (TOSTER) and spreadsheet
I'm happy to announce my first R package 'TOSTER'.
DANIELLAKENS.BLOGSPOT.COM

Like · 1 · April 10 at 6:42pm

Daniel Quintana Thanks for the feedback, glad to hear this while it's still a preprint. We actually cited Daniel Lakens' excellent TOSTER paper but I guess we can make this clearer.
Like · 1 · April 10 at 11:46pm

Daniel Lakens Hi Daniel Quintana, I read the first few pages, and I have good news and bad news. The good news is if the reviewers are all Bayesians, it will be accepted. The bad news is there are quite important misunderstandings of p-values and Bayes factors in the paper.

The hypothesis you describe in the intro (is the null true, or is there an effect larger than 0) can only be tested with p-values. It is underspecified for Bayesian stats. In Bayes, the alternative is 'is there a true effect between x and y with the distribution like z'. So the intro is an argument against Bayes factors. They don't allow you to test the hypothesis you seem interested in.

Then I stopped reading where you said Bayes factors could quantify the size of an effect. It is not true. You need to provide an effect size estimate with a Bayes factor. You can't only report a Bayes factor - it tells you nothing about the size of an effect. This is such a basic misunderstanding, I stopped reading, but you might want to reconsider getting an expert on board?

Finally, you misunderstand p-values. You are re-hashing arguments by p-value bashers. But not by experts on p-values (e.g., Benjamini, Nickerson, Frick). P-values are ONLY used for error control. Not mentioning that in the intro is the last reason this paper should not be read by novices.

Now it will be read, like crazy, because everyone thinks they need to report Bayes Factors. As I have blogged, equivalence tests outperform Bayes factors for testing the absence of any effect you care about. But to quote your excellent podcast: there are acadamic hipsters. They want to twist their mustaches, drink machiato's, and report Bayes factors.

There are thousands of 'intro to Bayes' factors resources. And there are 2 Intermediate Bayes factorsresources. Everybody wants to know what it is, but no one really goes on to use it. Think about that.

Daniel Lakens Here is the critical misunderstanding error (you'll need to remove the criticisms on cohen's d from the paper, or admit you need effect sizes in addition to bayes factors) - also, the Bayes factor can not provide evidence for the presence of an effect.... See More
Like · April 11 at 1:54am · Edited

Daniel Quintana This is very good feedback, great to have extra pairs of eyes looking over this before submission. Looking forward to discussing this topic on our podcast!
Like · 1 · April 11 at 2:05am

Kyle Morrissey There are thousands of intro to Bayes factors resources? That was not my experience :S

Though I finally did have someone run me through the conceptual basics in person the other day, and it made sense.
Like · April 11 at 8:28am

Daniel Lakens Kyle , -1 for not saying that the intro in my MOOC was all you needed. You can lead a horse to the water, but you can't make them drink.
Like · April 11 at 8:58am

Stephen Martin P-values really aren't used for error control. That's conflating NP and Fisherian approaches, no?

Piggy backing off this comment thread.... See More
Like · April 12 at 12:33am · Edited

Stephen Martin After reading Donald Williams' response, I thought I should just clarify: I'm all for papers giving 'new' (or at least, newly applied) perspectives on old topics, along with critiques of old perspectives on old topics. I intended my reply to be a critique moreso of BFs and some of the specific arguments, not as a critique of you or your intentions. I realized I never actually made that explicit in my reply above.
Like · 2 · April 12 at 12:36am

Matt Williams >The hypothesis you describe in the intro (is the null true, or is there an effect larger than 0) can only be tested with p-values. It is underspecified for Bayesian stats. In Bayes, the alternative is 'is there a true effect between x and y with the distribution like z'. [Daniel]

>More importantly though, the p(Model | D) can only be interpreted in the family of models that you're testing, but I think people interpret it as "probability I'm correct", [Stephen]

I agree given the standard interpretation of Bayes factors (where the prior on effect size is treated as part of the H1 model itself). But if you separate out the H1 *hypothesis* from the statistical model/prior the problem becomes sort-of resolvable. This is what I was banging on about in my recent blog: ://thepathologicalscience.blogspot.com/.../separating...

PS. Like Stephen Martin I'm also a Bayesian who doesn't really like Bayes factors, but I'm working on a manuscript at the moment where I've been asked to write an introduction to them for a special issue on methods in a particular sub-area of psych. It's been bloody difficult trying to produce a 'balanced' view of Bayes factors (i.e., balancing reasonable views of frequentists, pro-BF people, and Bayesians who prefer estimation). Thanks Daniel Quintana for provoking a discussion that has been helpful to me in making final revisions.

Separating model from hypothesis in the Bayes factor test
Premise When using statistical analyses, we will often test a statistical model that has one or more parts that we regard as forming an hy...
THEPATHOLOGICALSCIENCE.BLOGSPOT.COM

Like · April 12 at 4:09pm

Daniel Quintana That blog post is really handy, thanks for sharing! We're working on an update now based on everyone's great feedback
Like · April 13 at 4:48am

Donald Williams Hi Daniel Quintana. To all providing comments, I think it is important to remember the likely readership of this article. I imagine this paper is targeted to those in more clinical fields who have not been exposed to much Bayesian stuff. That said, I am not sure I see this as an introduction to Bayes factors, and especially not Bayesian statistics. Instead, I think this is more of an introduction into the doctrine of Rouder, Wagenmakers..etc (i.e., the BF crew) in psychology. Now that there approach has become more common, this has also resulted in finding several limitations in their approach and downright rebukes of their use of statistics (e.g., our paper: Uli Schimmack and Rickard Carlsson). That said, I think the BF crew does a lot great research, but has also oversold BF and feel as though they have sought extreme examples to show how BF and p differ, but always in favor of their method being superior. That said, rather than introduce this approach circa a few years ago, I see this as a unique opportunity to introduce what might be a "new" method to a field, but also include the recent critiques and other ways of using Bayesian statistics. In this way, we have a fair and balanced paper, and not one slanted towards the BF crew's philosophy that has dominanted psychology. Not that Dominant means the approach is necessarily good (or bad), just that they were shouting the loudest and often publishing things that were not novel other than computing a Bayes factor. This resulted in a flurry of opportunistic Bayes factor publications. Those days are hopefully winding down, although now the challenge is that more people are using JASP without really understanding what is going on. I cannot blame them, as the ease with which BF can be manipulated is not really described in any amount of detail--e.g., the infamous prior odds on Bem's ESP. As for the paper, I would steer away from critiquing p-values and instead think of ways we can think about using them. For example, p can be considered as a kind of model fit indices, not for the observed data, but to the null sampling distribution. That is, if we set up a null model (or envision a hypothetical null model), p gives us a measure of departure from that model. The question then becomes contexts in which this is useful, or what needs to accompany p to ensure it is valid and allows for rich inferences--there are lots and lots of assumptions that may or may not make sense depending on the situation, but no less sensible than any statistical quantities assumptions. While much attention has been paid to the Bayesian prior, what is less considered is the chosen likelihood, which is a modeling based decision both frequentist's and Bayesian's make, but Bayesian more explicitly so. That said, Bayesian's do not often examine the influence of distributional departures from the chosen likelihood on the resulting posterior (to my knowledge). These are important issues, as they directly affect the density with which Bayes factors are computed. How does non-normality, unequal variances, treating a count variable as continuous influence the resulting Bayes factor, for example? This says nothing about the importance of fully understanding that BF is a model comparison metric. It provides relative evidence. This generally comes with even odds on the null and alternative. This does not makes much sense, but I have also made this assumption in some of my work. I am not sure this is more unreasonable than testing the value of zero in a frequentist framework, so proceeded but with effect size estimates and intervals on those effects (quantities not provided by Bayes factors). These are important issues, and I see that you have a unique opportunity to introduce the current state of Bayesian methods to your field (prior odds, the importance of the prior, and inferences obtained from the posterior...etc.). This also comes with great responsibility, and I think it would be a shame to align yourself so heavily with the BF crew in their use of not only Bayesian statistics, but also their arguments against p-values.
Like · 5 · April 12 at 12:57am · Edited

Donald Williams Let me also say that I too made many of the similar arguments against p-values in the past. Since then, I learned that p is not evil, and that Bayes factors are not great. They simply are what they are, and the problem really arises from misuse or misunderstandings.
Like · 4 · April 12 at 12:36am

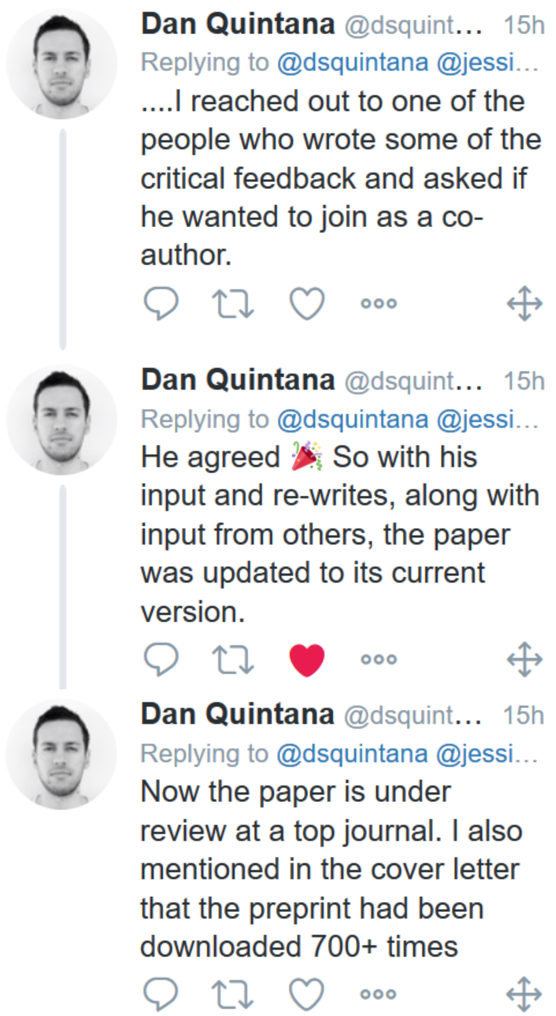
Daniel Quintana Thanks for these comments. In earlier versions of the manuscript we went into a lot more depth (including the importance of the chosen likelihood) but were squeezed for space. The tricky thing here is to make this paper approachable to those who are more clinically oriented, while also appropriately covering all the important issues (and keeping within word limits).
Like · 1 · April 12 at 2:26am

Donald Williams One thing I forgot to mention is whether in clinical oriented work we even care about model selection via bayesian null hypothesis testing? For example, for making treatment decisions, what is more informative: d = 0.30, 95-% CI [0.05, 0.55], or BF_10 ... See More
Like · 1 · April 12 at 11:58am · Edited

Marcel van Assen Donald Williams I agree with you that p-values and BFs are both useful and have their own problems
Like · 1 · April 12 at 8:28am

Marcel van Assen Donald Williams Did you read the free lunch paper of Rouder et al (2016)? I like it, and would recommend it to those interested in BFs, although they always only present their BFs in a positive light (as you said)
Like · April 12 at 8:29am

Donald Williams Marcel van Assen I did, but it was some time ago. I recall it was very intriguing

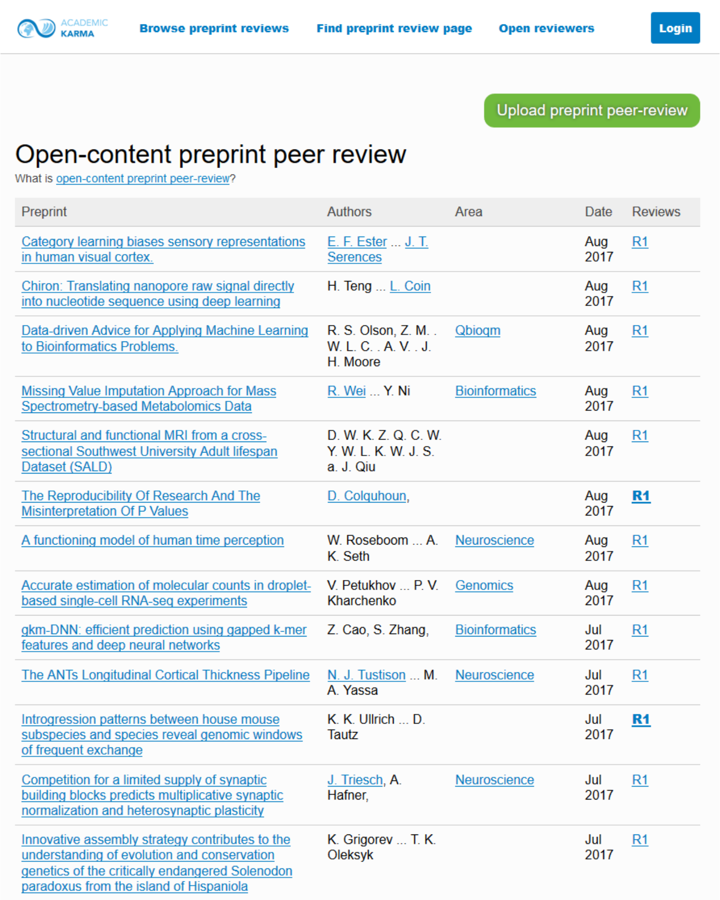


Dan Quintana @dsquint… 15h
Replying to @dsquintana @jessi…
….I reached out to one of the people who wrote some of the critical feedback and asked if he wanted to join as a co-author.

Dan Quintana @dsquint… 15h
Replying to @dsquintana @jessi…
He agreed 🎉 So with his input and re-writes, along with input from others, the paper was updated to its current version.

Dan Quintana @dsquint… 15h
Replying to @dsquintana @jessi…
Now the paper is under review at a top journal. I also mentioned in the cover letter that the preprint had been downloaded 700+ times

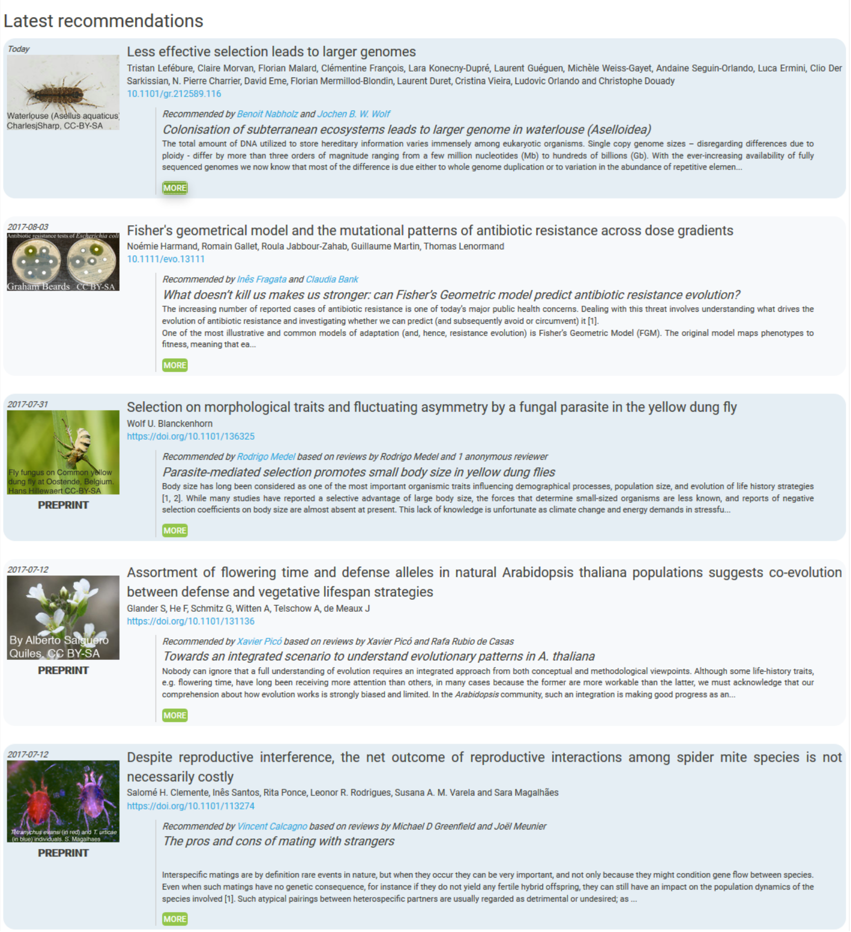
Academic Karma, Peer Community In



Open-content preprint peer review

What is open-content preprint peer-review?

Preprint	Authors	Area	Date	Reviews
Category learning biases sensory representations in human visual cortex.	E. F. Ester ... J. T. Serences		Aug 2017	R1
Chiron: Translating nanopore raw signal directly into nucleotide sequence using deep learning	H. Teng ... L. Coin		Aug 2017	R1
Data-driven Advice for Applying Machine Learning to Bioinformatics Problems.	R. S. Olson, Z. M. . W. L. C. . A. V. . J. H. Moore	Qbioqm	Aug 2017	R1
Missing Value Imputation Approach for Mass Spectrometry-based Metabolomics Data	R. Wei ... Y. Ni	Bioinformatics	Aug 2017	R1
Structural and functional MRI from a cross-sectional Southwest University Adult lifespan Dataset (SALD)	D. W. K. Z. Q. C. W. Y. W. L. K. W. J. S. a. J. Qiu		Aug 2017	R1
The Reproducibility Of Research And The Misinterpretation Of P Values	D. Colquhoun,		Aug 2017	**R1**
A functioning model of human time perception	W. Roseboom ... A. K. Seth	Neuroscience	Aug 2017	R1
Accurate estimation of molecular counts in droplet-based single-cell RNA-seq experiments	V. Petukhov ... P. V. Kharchenko	Genomics	Aug 2017	R1
gkm-DNN: efficient prediction using gapped k-mer features and deep neural networks	Z. Cao, S. Zhang,	Bioinformatics	Jul 2017	R1
The ANTs Longitudinal Cortical Thickness Pipeline	N. J. Tustison ... M. A. Yassa	Neuroscience	Jul 2017	R1
Introgression patterns between house mouse subspecies and species reveal genomic windows of frequent exchange	K. K. Ullrich ... D. Tautz		Jul 2017	**R1**
Competition for a limited supply of synaptic building blocks predicts multiplicative synaptic normalization and heterosynaptic plasticity	J. Triesch, A. Hafner,	Neuroscience	Jul 2017	R1
Innovative assembly strategy contributes to the understanding of evolution and conservation genetics of the critically endangered Solenodon paradoxus from the island of Hispaniola	K. Grigorev ... T. K. Oleksyk		Jul 2017	R1



Latest recommendations

Today

Waterlouse (Asellus aquaticus) CharlesjSharp, CC-BY-SA

Less effective selection leads to larger genomes

Tristan Lefébure, Claire Morvan, Florian Malard, Clémentine François, Lara Konecny-Dupré, Laurent Guéguen, Michèle Weiss-Gayet, Andaine Seguin-Orlando, Luca Ermini, Clio Der Sarkissian, N. Pierre Charrier, David Eme, Florian Mermillod-Blondin, Laurent Duret, Cristina Vieira, Ludovic Orlando and Christophe Douady

10.1101/gr.212589.116

Recommended by Benoit Nabholz and Jochen B. W. Wolf

Colonisation of subterranean ecosystems leads to larger genome in waterlouse (Aselloidea)

The total amount of DNA utilized to store hereditary information varies immensely among eukaryotic organisms. Single copy genome sizes – disregarding differences due to ploidy - differ by more than three orders of magnitude ranging from a few million nucleotides (Mb) to hundreds of billions (Gb). With the ever-increasing availability of fully sequenced genomes we now know that most of the difference is due either to whole genome duplication or to variation in the abundance of repetitive elemen...

MORE

2017-08-03

Antibiotic resistance tests of *Escherichia coli* Graham Beards CC BY-SA

Fisher's geometrical model and the mutational patterns of antibiotic resistance across dose gradients

Noémie Harmand, Romain Gallet, Roula Jabbour-Zahab, Guillaume Martin, Thomas Lenormand

10.1111/evo.13111

Recommended by Inês Fragata and Claudia Bank

What doesn't kill us makes us stronger: can Fisher's Geometric model predict antibiotic resistance evolution?

The increasing number of reported cases of antibiotic resistance is one of today's major public health concerns. Dealing with this threat involves understanding what drives the evolution of antibiotic resistance and investigating whether we can predict (and subsequently avoid or circumvent) it [1].

One of the most illustrative and common models of adaptation (and, hence, resistance evolution) is Fisher's Geometric Model (FGM). The original model maps phenotypes to fitness, meaning that ea...

MORE

2017-07-31

Fly fungus on Common yellow dung fly at Oostende, Belgium. Hans Hillewaert CC-BY-SA

PREPRINT

Selection on morphological traits and fluctuating asymmetry by a fungal parasite in the yellow dung fly

Wolf U. Blanckenhorn

https://doi.org/10.1101/136325

Recommended by Rodrigo Medel based on reviews by Rodrigo Medel and 1 anonymous reviewer

Parasite-mediated selection promotes small body size in yellow dung flies

Body size has long been considered as one of the most important organismic traits influencing demographical processes, population size, and evolution of life history strategies [1, 2]. While many studies have reported a selective advantage of large body size, the forces that determine small-sized organisms are less known, and reports of negative selection coefficients on body size are almost absent at present. This lack of knowledge is unfortunate as climate change and energy demands in stressfu...

MORE

2017-07-12

By Alberto Salguero Quiles, CC BY-SA

PREPRINT

Assortment of flowering time and defense alleles in natural Arabidopsis thaliana populations suggests co-evolution between defense and vegetative lifespan strategies

Glander S, He F, Schmitz G, Witten A, Telschow A, de Meaux J

https://doi.org/10.1101/131136

Recommended by Xavier Picó based on reviews by Xavier Picó and Rafa Rubio de Casas

Towards an integrated scenario to understand evolutionary patterns in A. thaliana

Nobody can ignore that a full understanding of evolution requires an integrated approach from both conceptual and methodological viewpoints. Although some life-history traits, e.g. flowering time, have long been receiving more attention than others, in many cases because the former are more workable than the latter, we must acknowledge that our comprehension about how evolution works is strongly biased and limited. In the *Arabidopsis* community, such an integration is making good progress as an...

MORE

2017-07-12

Tetranychus evansi (in red) and *T. urticae* (in blue) individuals. S. Magalhaes

PREPRINT

Despite reproductive interference, the net outcome of reproductive interactions among spider mite species is not necessarily costly

Salomé H. Clemente, Inês Santos, Rita Ponce, Leonor R. Rodrigues, Susana A. M. Varela and Sara Magalhães

https://doi.org/10.1101/113274

Recommended by Vincent Calcagno based on reviews by Michael D Greenfield and Joël Meunier

The pros and cons of mating with strangers

Interspecific matings are by definition rare events in nature, but when they occur they can be very important, and not only because they might condition gene flow between species. Even when such matings have no genetic consequence, for instance if they do not yield any fertile hybrid offspring, they can still have an impact on the population dynamics of the species involved [1]. Such atypical pairings between heterospecific partners are usually regarded as detrimental or undesired; as ...

MORE

Science Open,
Self Journal of
Science, etc

Preprints themselves as feedback/critique

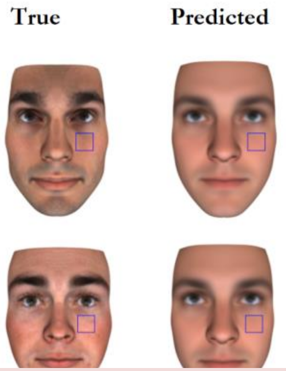
PNAS

Christoph Lippert….J. Craig Venter

Identification of individuals by trait prediction using whole-genome sequencing data

PNAS 2017 ; published ahead of print
doi:10.1073/pnas.1711125114

September 5, 2017



CSH Cold Spring Harbor Laboratory

bioRxiv beta

THE PREPRINT SERVER FOR BIOLOGY

Yaniv Erlich

Major flaws in "Identification of individuals by trait prediction using whole-genome sequencing data"

bioRxiv 185330; doi: https://doi.org/10.1101/185330

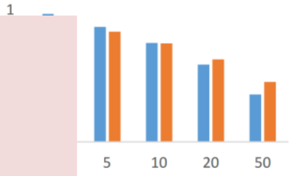
September 6, 2017

Christoph Lippert… J. Craig Venter

No major flaws in "Identification of individuals by trait prediction using whole-genome sequencing data"

bioRxiv 187542; doi: https://doi.org/10.1101/187542

Fig. 2. Examples of real (*Left*) and predic



nparing Venter re-identification to a
line procedure for various n. Blue:
l on the R script with 1000 rounds.
2 of Venter (“Full-Select” row).

Preprint feedback can inform journal decisions

THE
FASEB JOURNAL
The Official Journal of the Federation of American Societies for Experimental Biology

“In addition, the journal reserves the right--but is not obligated--to consider the comments made to manuscripts posted to preprint servers and factor these comments into final decisions at any stage of the peer review process.”

http://www.fasebj.org/site/misc/edpolicies.xhtml#Preprint_Submissions

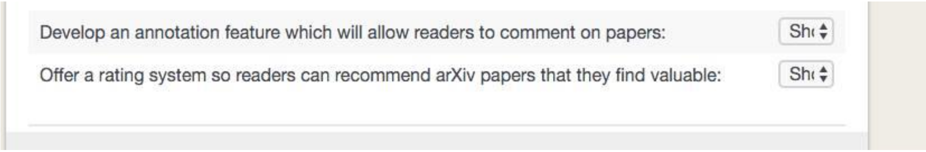
The dark side of comments

The Accidental Mathematician

HOME BIO SELECTED POSTS

BY IZABELLA LABA | APRIL 10, 2016 · 7:02 AM

ArXiv, comments, and "quality control"



Develop an annotation feature which will allow readers to comment on papers:

Offer a rating system so readers can recommend arXiv papers that they find valuable:

"Internet comment sections are in decline everywhere you look. They are mocked, ridiculed, despised. Many websites have closed them already; others have seen their comments become a racist, sexist bog of eternal stench from which any reasonable person is best advised to stay away."

"Women, in particular, get far too many comments questioning our competence, implying that we might not know the basic literature, that we might not really understand our own results, that said results might turn out to be false or trivial if only someone qualified had a look, or some such. We're also subject to gendered standards of "professionalism" that do not allow us to respond in kind and give as good as we get. But if you tell me that men, too, can get inane, confused, or malicious comments–why, yes, I agree. More reason to refrain from making the arXiv more like YouTube."

https://ilaba.wordpress.com/2016/04/10/arxiv-comments-and-quality-control/

Preprint journal clubs

- Meaningful exercise: send feedback to authors to improve their paper
- Teach students how to write a review

Authorea

Welcome to PREreview!

Josh Nicholson **(Authorea)**
Samantha Hindle **(University of California, San Francisco)**
Daniela Saderi **(Oregon Health & Science University)**

https://www.authorea.com/users/8850/articles/198235-welcome-to-prereview

ACADEMIC KARMA

preprintjc.org

to have an opportunity to interact with the scientists on very cutting edge work.

Prachee Avasthi at the University of Kansas Medical Center draws material for her “Analysis of Scientific Papers” course exclusively from preprint servers. She’s generously shared her syllabus and introductory slide deck, and the students’ reviews can be found on the Winnower.

asapbio.org/10-ways

More resources/information at
asapbio.org

Twitter:
#ASAPbio | @ASAPbio_

C O P E 20TH ANNIVERSARY
1997-2017

Current Issues in Peer Review

COPE Webinar
14 September 2017

Lightning Poll 4

C O P E 20TH ANNIVERSARY 1997-2017

BMC Part of Springer Nature

View on peer review from COPE

Elizabeth Moylan, Senior Editor (Research Integrity), BMC

Chair, Education subcommittee, COPE

#PeerRevWk17

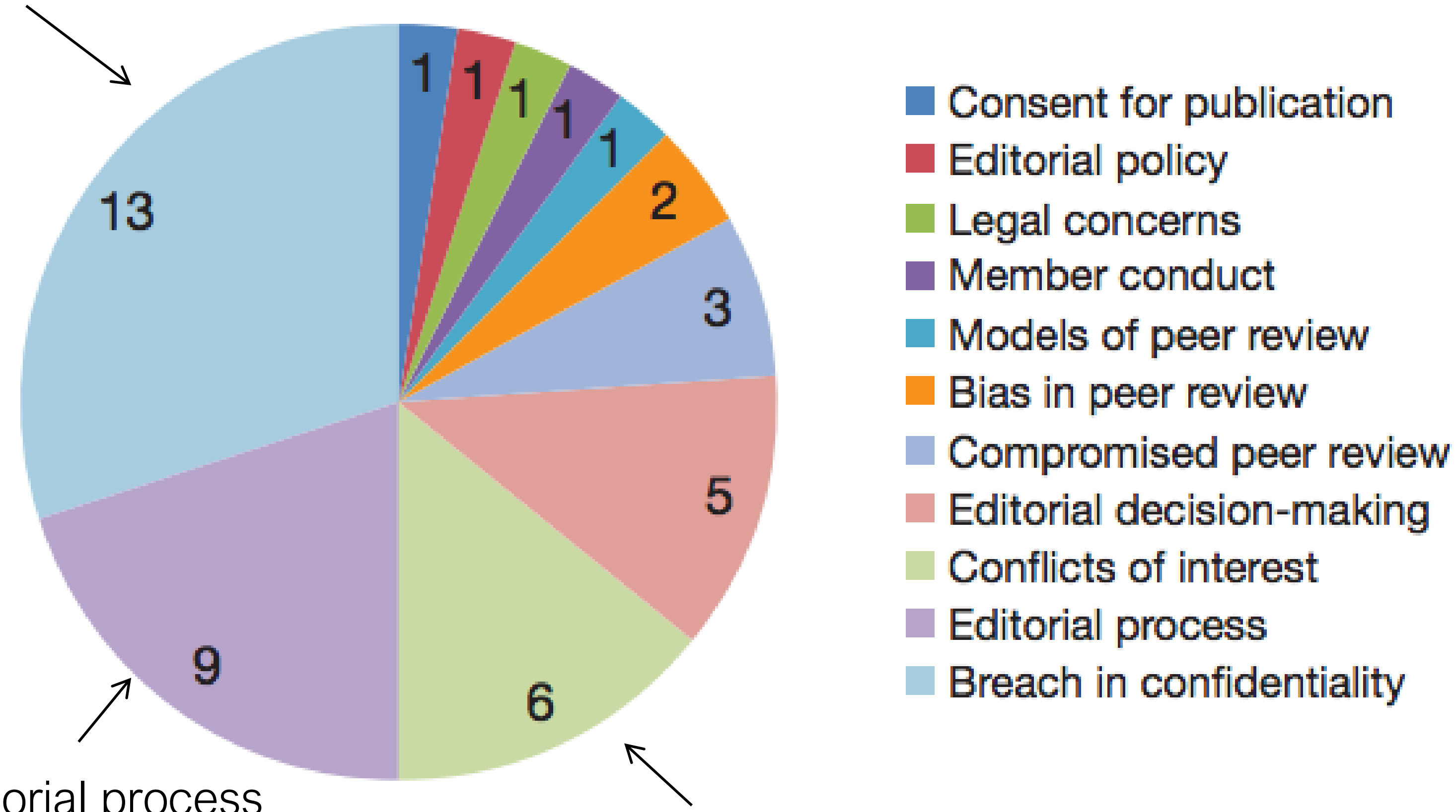
Peer review issues

- How can COPE help?
- What are the main issues we see?
- What does transparency in peer review mean?

How can COPE help?

- Resources
- Support
- Encourage discussion and debate

What are main issues in peer review?



Confidentiality

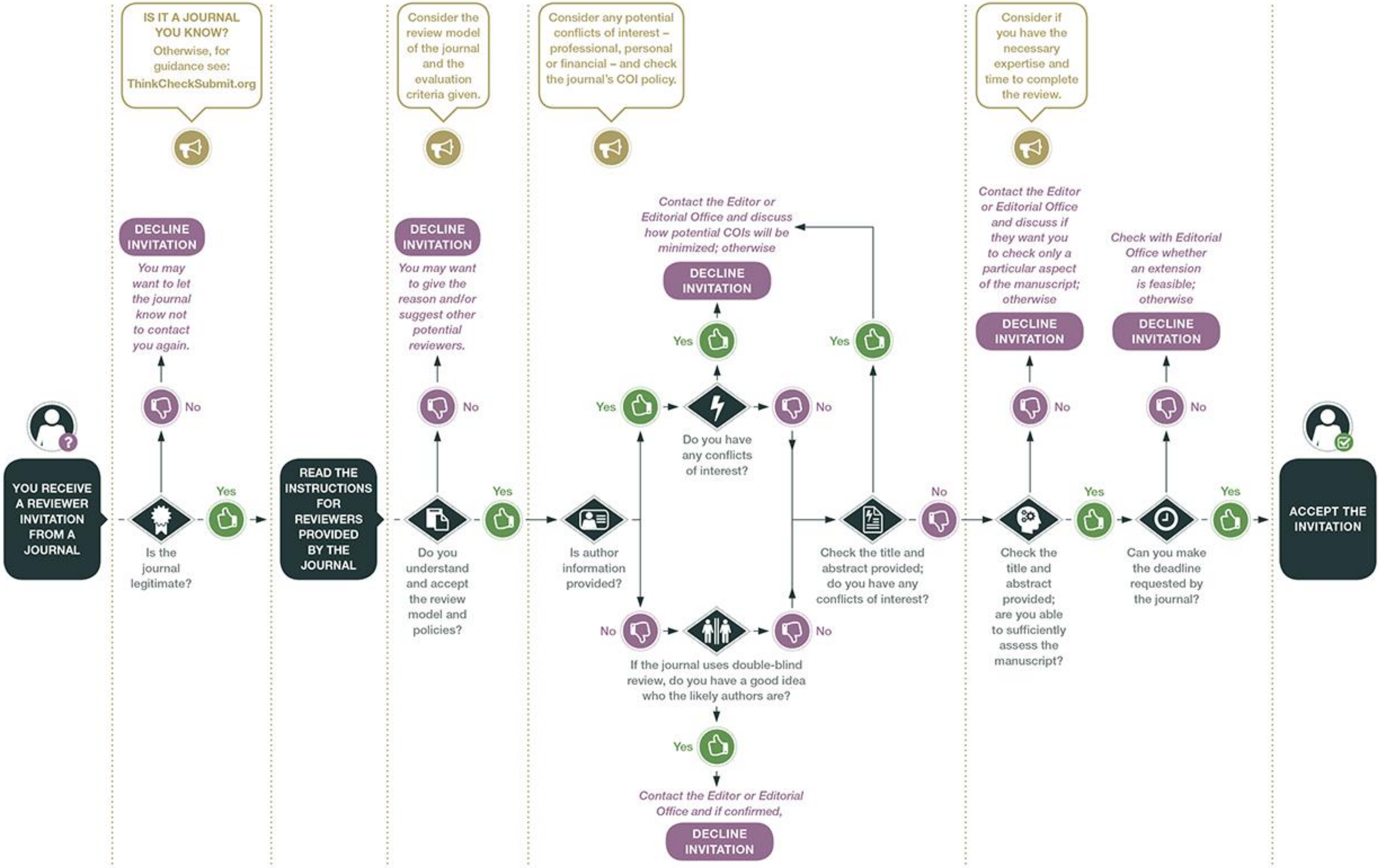
Editorial process

COI

http://bit.ly/2y5u6Zi

WHAT TO CONSIDER WHEN ASKED TO PEER REVIEW A MANUSCRIPT

COPE



YOU RECEIVE A REVIEWER INVITATION FROM A JOURNAL

Is the journal legitimate?

IS IT A JOURNAL YOU KNOW? Otherwise, for guidance see: ThinkCheckSubmit.org

No → **DECLINE INVITATION** You may want to let the journal know not to contact you again.

Yes → **READ THE INSTRUCTIONS FOR REVIEWERS PROVIDED BY THE JOURNAL**

Do you understand and accept the review model and policies?

Consider the review model of the journal and the evaluation criteria given.

No → **DECLINE INVITATION** You may want to give the reason and/or suggest other potential reviewers.

Yes → Is author information provided?

Consider any potential conflicts of interest – professional, personal or financial – and check the journal's COI policy.

Yes → Do you have any conflicts of interest?

Yes → *Contact the Editor or Editorial Office and discuss how potential COIs will be minimized; otherwise* **DECLINE INVITATION**

No → Check the title and abstract provided; do you have any conflicts of interest?

No → If the journal uses double-blind review, do you have a good idea who the likely authors are?

Yes → *Contact the Editor or Editorial Office and if confirmed,* **DECLINE INVITATION**

No → Check the title and abstract provided; do you have any conflicts of interest?

Yes → *Contact the Editor or Editorial Office and discuss how potential COIs will be minimized; otherwise* **DECLINE INVITATION**

No → Check the title and abstract provided; are you able to sufficiently assess the manuscript?

Consider if you have the necessary expertise and time to complete the review.

No → *Contact the Editor or Editorial Office and discuss if they want you to check only a particular aspect of the manuscript; otherwise* **DECLINE INVITATION**

Yes → Can you make the deadline requested by the journal?

No → *Check with Editorial Office whether an extension is feasible; otherwise* **DECLINE INVITATION**

Yes → **ACCEPT THE INVITATION**

HOW TO RECOGNISE POTENTIAL MANIPULATION OF THE PEER REVIEW PROCESS

C O P E

Peer reviewers may be suggested by:

- **the Editor handling the manuscript.**
- **authors on submission of their manuscript to a journal.**
- **another reviewer who is unable to peer review the manuscript.**

While there is an expectation that everyone involved in the process acts with integrity *(Ref 1)*, the peer review process can be susceptible to manipulation *(Ref 2-4)* as discussed at **COPE's 2016 North American Seminar.** *(Ref 5)*

The features or patterns of activity shown opposite are suggested to help Editors recognise potential signs of peer review manipulation. Often it is the occurrence of these features in combination that may indicate a potential issue, and they may only become apparent at later stages in the peer review or publishing process.

Relevant COPE Cases:

Case 11-27: Author Creates Bogus Email Accounts for Proposed Reviewers
http://bit.ly/2eTOmVm

Case 12-12: Compromised Peer Review in Published Papers
http://bit.ly/2wVLkKU

Case 12-16: Compromised Peer Review *(Unpublished)*
http://bit.ly/2y2O4nv

References:

1. **COPE Ethical Guidelines to Peer Review.**
   http://bit.ly/2xZcZrk
2. **COPE Statement on Inappropriate Manipulation of Peer Review Processes.**
   http://bit.ly/2f2NRMw
3. **Who Reviews the Reviewers? *Jigisha Patel***
   http://bit.ly/1AgfKDc
4. **Inappropriate Manipulation of Peer Review. *Elizabeth Moylan***
   http://bit.ly/2w64bTN
5. **Can You Spot a Fake? The Trend of Fake Peer Reviews. *Alison McCook***
   Who Reviews the Reviewers? *Kristen Overstreet*
   Peer Review Manipulation. New Challenges and New Solutions. *Jigisha Patel*
   http://bit.ly/2vSjZoY
6. **Organised Crime Against the Academic Peer Review System. *Adam Cohen et al***
   http://bit.ly/1UmIH7Y

Recognised Features or Patterns of Reviewer Activity

Similarity to other peer reviewer reports
(purportedly from different individuals)

Third party agency involvement
(Ref 4 & 6)

Non-institutional email address
(including, but not limited to: gmail, yahoo, or hotmail accounts)

Suspicious email address
(atypical for that reviewer)

A review that is vague in style
(language not typical of apparent seniority, experience, or educational background of reviewer) (Ref 6)

Fictitious name

Positive review in strong contrast to other reviewers
(with mainly grammatical changes)

Work in an unrelated subject to the manuscript

Atypical features of the IP address

Complimentary review but point out minor technical issues
(appearing credible)

Extremely quick to agree to peer review

Never recommends rejection

Reviews frequently returned well ahead of the deadline

Agreeing to review many manuscripts
(and particularly 'active' in a journal's peer review database

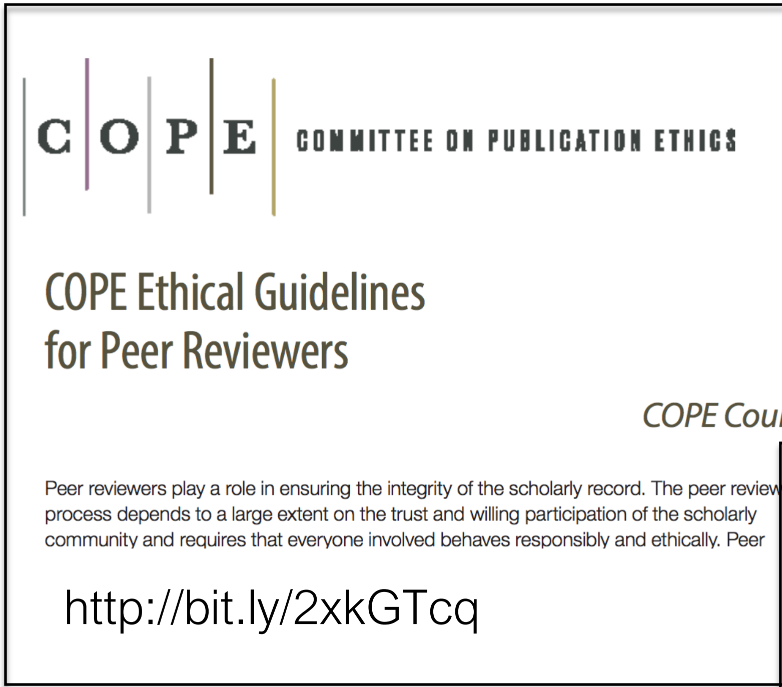
Best Practice to Minimise Peer Review Manipulation

SUBMIT
1
Require that authors submit manuscripts to the journal themselves.

VERIFY
2
Try to use institutional emails or institutionally verified ORCIDs when inviting peer reviewers.

QUALIFY
3
Always check that suggested peer reviewers are qualified to review the manuscript and their email address is accurate.

BEHAVIOUR
4
Check for unusual patterns of behaviour which in combination may suggest peer review manipulation is occurring.



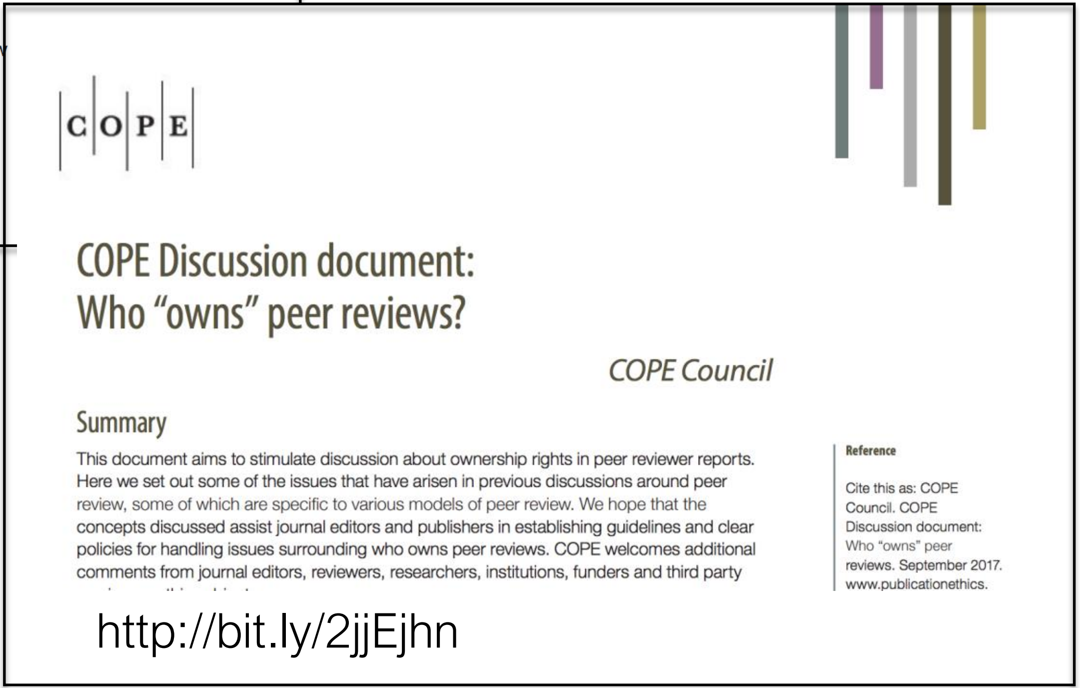
C O P E COMMITTEE ON PUBLICATION ETHICS

COPE Ethical Guidelines for Peer Reviewers

COPE Council

Peer reviewers play a role in ensuring the integrity of the scholarly record. The peer review process depends to a large extent on the trust and willing participation of the scholarly community and requires that everyone involved behaves responsibly and ethically. Peer

http://bit.ly/2xkGTcq



C O P E

COPE Discussion document: Who "owns" peer reviews?

COPE Council

Summary

This document aims to stimulate discussion about ownership rights in peer reviewer reports. Here we set out some of the issues that have arisen in previous discussions around peer review, some of which are specific to various models of peer review. We hope that the concepts discussed assist journal editors and publishers in establishing guidelines and clear policies for handling issues surrounding who owns peer reviews. COPE welcomes additional comments from journal editors, reviewers, researchers, institutions, funders and third party

Reference

Cite this as: COPE Council. COPE Discussion document: Who "owns" peer reviews. September 2017. www.publicationethics.

http://bit.ly/2jjEjhn

COPE Digest: Publication Ethics in Practice

Current issue

COPE Digest: Publication Ethics in Practice. September 2017 (Vol. 5, Issue 9)

publicationethics.org

What does transparency in peer review mean?

Journals – clear policies and guidelines

All parties – declare COI and respect confidentiality

Reviewers – expertise to peer review & time

Thank you!

Special thanks to Natalie Ridgeway, Linda Gough, Sarah Gillmore @COPE

COPE's Education subcommittee, especially Charon Pierson, Trevor Lane, Heather Tierney and Tara Hoke

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Current Issues in Peer Review

COPE Webinar
14 September 2017

Lightning Poll 5

COPE Webinar: Current issues in Peer Review

Heather Tierney

Managing Editor Journals and Ethics Policy, American Chemical Society

COPE Council Member

Tony Ross-Hellauer

Scientific Manager OpenAIRE2020 project, University of Göttingen

Jessica Polka & Samantha Hindle

Jessica is Director of ASAPbio

Sam is an ASAPbio Ambassador

Elizabeth Moylan

Senior Editor *Research Integrity BMC*

COPE Council Member

Next steps

- Updated with input from institutions:
  - **Ethical Guidelines on Peer Review** publicationethics.org/peerreviewguidelines
  - **Who Owns Peer Reviews?** Discussion Document publicationethics.org/resources/discussion-documents
- New flowcharts:
  - **How to spot potential manipulation of the peer review process**
  - **What to consider when asked to review** publicationethics.org/resources/flowcharts
- Please give us your **feedback** by responding to the email we will send you after this webinar

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Current Issues in Peer Review

COPE Webinar
14 September 2017

Thank you!

#PeerRevWk17

publicationethics.org