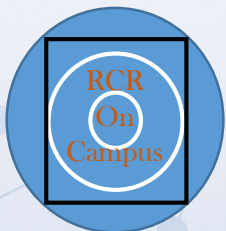


# RCR Summer Seminar Series

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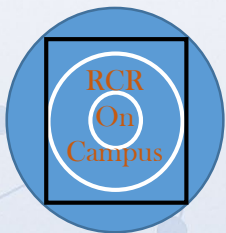
Rigors of Peer Review

Michelle Leonard & Suzanne Stapleton  
Marston Science Library  
June 24, 2021



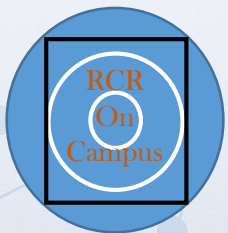
# RCR Certification

- Mentor/Mentee Relationships- Finding the Right Balance
- Collaborative Research
- Conflicts of Interest
- Data Management and Artificial Intelligence
- Compliance at UF &
- Research Misconduct Overview
- Research Misconduct: Plagiarism
- Research Misconduct: ORI: The Lab
- Ethics of Authorship
- Rigors of Peer Review
- Reproducibility & Replicability
- IRB & Informed Consent
- Export Control Overview Including an overview of Dual Use Technology
- Putting it All Together



# Agenda

- Welcome!
- Part 1:
  - What is Peer Review
  - Types of Peer Review
- Examples & Case Studies
- Part 2:
  - Constructive Peer Review
- Best Practices & Recommendations



# Objectives

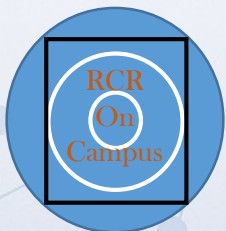
1. Learn the peer review process from both author and reviewer perspectives
2. Recognize the foundational value of peer review to development of new knowledge
3. Critique various forms of peer review
4. Demonstrate formats of providing constructive peer review





# Part I.

# Peer Review: What Authors Need to Know

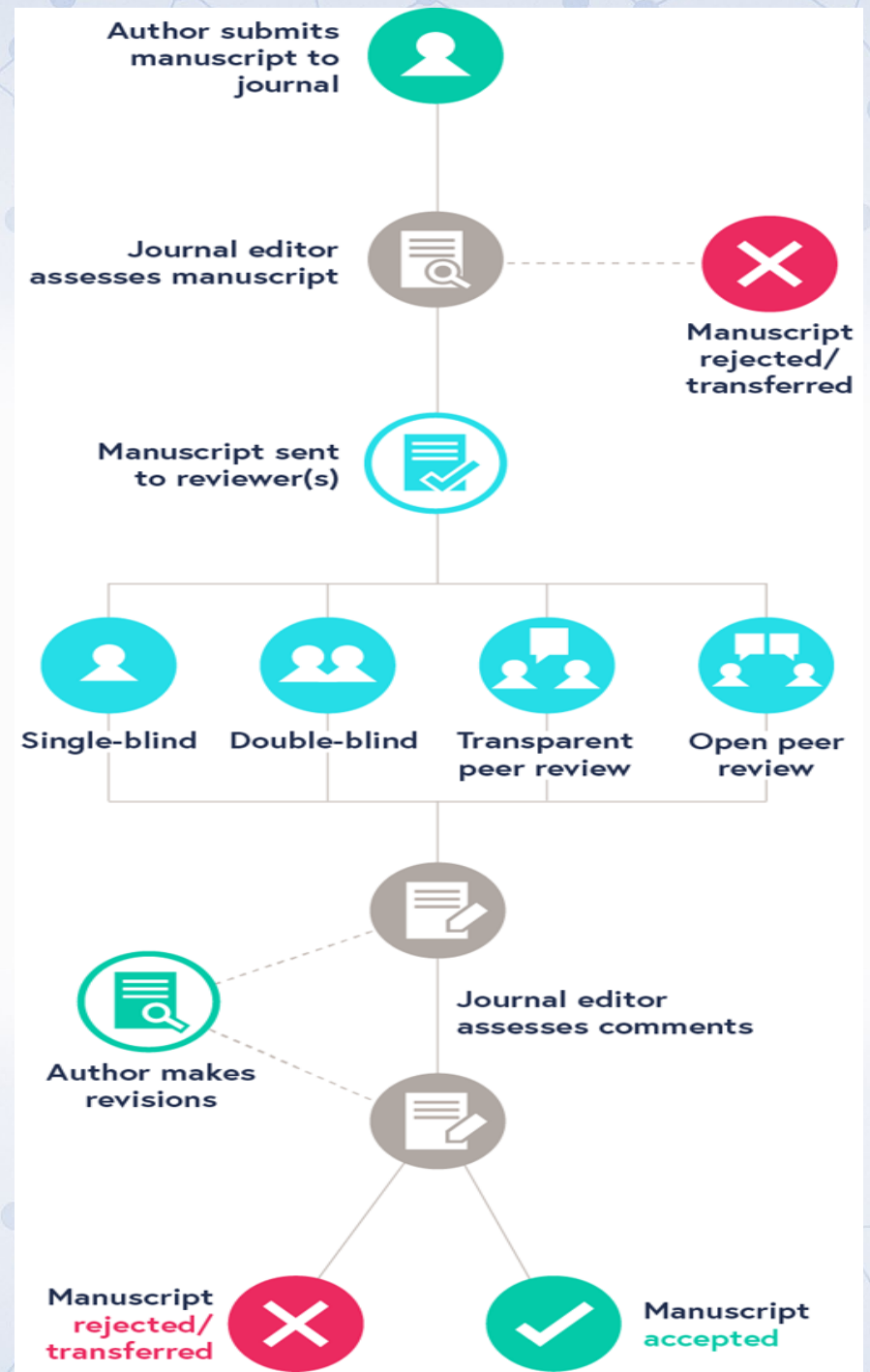


# What is peer review?



# Publishing Process:

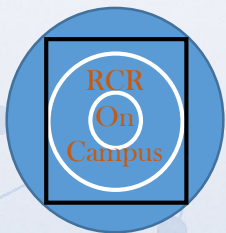
1. Author writes a paper: review or original research
2. Find a journal that meets the scope
3. Initial review by the journal editor
4. Identifies and sends manuscript to reviewers
5. Reviewer submits recommendations to the editor
6. Authors receive notification and follow next steps
7. GOAL: get published!



# What is peer review? In a nutshell

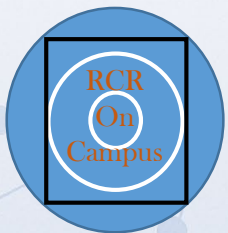


- Is it true?
- Is it new?
- Is it of interest?





# Types of peer review

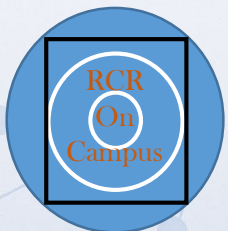


# Types of Peer Review

- Open
- Single blind
- Double blind
- Transferable
- Collaborative
- Post publication

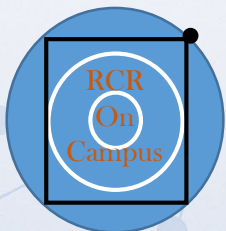
# Definition

- a) Assign your article to another subject-related journal
- b) Reviewers work with each other or with the author
- c) The author does not know who the reviewers are
- d) Revisions/review continue after publication
- e) The reviewers do not know who the authors are, and authors do not know who the reviewers are
- f) Identity of the reviewers and authors are known to all



# Pros & Cons of Each Type of Peer Review

- Single
  - Pro: author doesn't know the reviewer; honest review
  - Con: reviewer bias (i.e., gender, nationality, competitor, delay publication, accept a poorly written paper based on author reputation)
- Double:
  - Pro: reduces bias
  - Con: reviewer could delay publication based on competition
- Open
  - Pro: hold reviewers accountable
  - Con: compromised reviews; early career reviewers may need to be careful

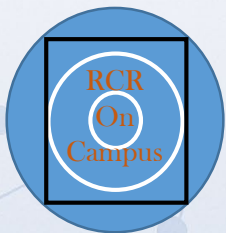


# Pros & Cons of Each Type of Peer Review

- Collaborative
  - Pro: team of peer reviewers
  - Con: team of peer reviewers
- Post Publication:
  - Pro: continuously improve the article
  - Con: when do the corrections cease?
- Transferable
  - Pro: another option of where to publish if 1<sup>st</sup> choice is rejected
  - Con: additional revisions of new reviewers



# Examples of Peer Review Misconduct

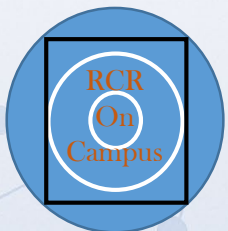


# Examples of what goes wrong.....

Responding to peer reviews is never fun. It's harder when COVID-19 shuts down your lab

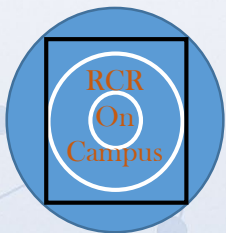
**Journal retracted 46 articles in one fell swoop for faked peer review**

**Agriculture researcher up to 15 retractions for fake peer review**



From: [RetractionWatch.com](https://www.retractionwatch.com)

# Case Studies



# Case Study

Dr. George Adams receives a manuscript for ad hoc review from the editor of a scientific journal. George gives the manuscript to Al Nance, his senior postdoctoral fellow. He asks Al to read the manuscript and prepare some written comments critiquing it.

One week later, Al provides to Dr. Adams one page of comments. Al also provides Dr. Adams with an extensive verbal critique of the paper. Dr. Adams then prepares a written review which is submitted to the editor of the scientific journal.

A few weeks later, Dr. Adams learns that Al made photocopies of the entire literature citation section of the manuscript because it contained "some useful references". Dr. Adams proceeds to verbally reprimand Al, telling him that no part of a manuscript received for review should be copied.

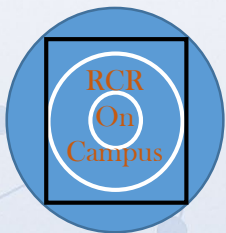
Comment on the behavior of both the faculty member and the postdoctoral fellow in this scenario.

<http://research-ethics.net/topics/peer-review/#discussion>





# Part 2. Becoming A Peer Reviewer



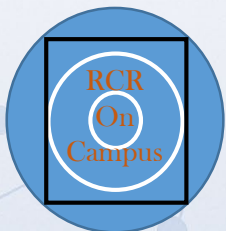
The skills you develop as a Reviewer  
will benefit your skills as an Author



# Importance of Peer Review

Peer reviewing is “the cornerstone of our profession, on which we need to build all other endeavors”

“Peer review is how we ensure the overall quality of our work, how we support each other, how we can push and constructively challenge each other to be truly innovative, how we can make sure that our work connects with and is relevant for others, and how we can drive impact and change that are appropriately targeted at the needs of different communities.”



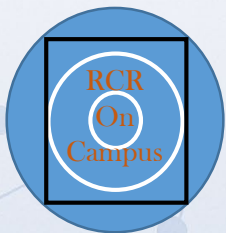
Köhler, T., González-Morales, M., Banks, G., O’Boyle, E., Allen, J., Sinha, R., . . . Gulick, L. (2020). Supporting robust, rigorous, and reliable reviewing as the cornerstone of our profession: Introducing a competency framework for peer review. *Industrial and Organizational Psychology*, 13(1), 1-27. doi:10.1017/iop.2019.121

# Constructive Peer Review



# Elements of a Constructive Review

- Supportive
- Provides big picture and detailed examples
- Impartial, unbiased



See also 10 Simple Rules for Reviewers Rules 3, 4 and 9 <https://doi.org/10.1371/journal.pcbi.0020110>



# Develop Your Own Steps for Peer Review

- Overview of journal expectations & forms
- First read-through of the submission
- Take notes: explain research question & contribution, identify any major flaws
- Detailed reading of each section
- Organize your notes and thoughts
- Write your review
- Read your review for constructiveness before submitting it



Modified from Wiley's Steps in the Peer Review Process  
<https://authorservices.wiley.com/Reviewers/journal-reviewers/how-to-perform-a-peer-review/step-by-step-guide-to-reviewing-a-manuscript.html#15>

# Comments to Author



- Short letter
- Summary of main findings of submission
- Comment on context and relevancy from your expertise
- Identify areas for improvement
- Attach a marked-up file or detailed points with evidence and recommended actions



# Comments to Editor

- Confidential
- Subject-specific perspective of the strengths & weaknesses
- Explain your recommendation

**Dear Editor,**

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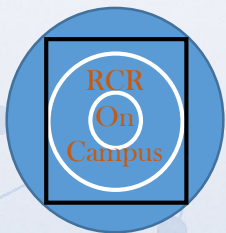
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# Example of a Journal with Open Review

The screenshot displays the F1000Research website interface. At the top, there is a navigation bar with the F1000Research logo, a search bar, and a 'SUBMIT YOUR RESEARCH' button. Below the navigation bar, there are links for 'BROWSE', 'GATEWAYS & COLLECTIONS', 'HOW TO PUBLISH', 'ABOUT', 'BLOG', 'MY RESEARCH', and 'SIGN IN'. The main content area features a research article titled 'Spatial response of the globally-endangered Sokoke Pipit (*Anthus sokokensis* van Someren, 1921) to habitat degradation in an Eastern Arc Coastal forest [version 2; peer review: 1 approved, 1 approved with reservations]'. The article is marked as 'REVISED' and includes a 'Check for updates' button. The abstract text is visible, starting with 'The Arabuko-Sokoke forest is the largest relic of a formerly larger contiguous East African coastal forest...'. To the right of the article, there is a sidebar with 'ALL METRICS' showing 1194 views and 671 downloads, and buttons for 'Get PDF', 'Get XML', 'Cite', 'Export', 'Track', 'Email', and 'Share'. Further right, the 'Open Peer Review' section shows the 'Reviewer Status' as '1 approved, 1 approved with reservations'. Below this, the 'Reviewer Reports' table lists two reviewers: Jeremy Lindsell (Cambridge, UK) and John Banks (University of Washington, Tacoma, WA, USA). The 'Comments on this article' section shows 'All Comments (0)' and an 'Add a comment' button.

Home » Browse » Spatial response of the globally-endangered Sokoke Pipit (*Anthus sokokensis* van Someren, 1921) to habitat degradation in an Eastern Arc Coastal forest [version 2; peer review: 1 approved, 1 approved with reservations]

RESEARCH ARTICLE

**REVISED** Spatial response of the globally-endangered Sokoke Pipit (*Anthus sokokensis* van Someren, 1921) to habitat degradation in an Eastern Arc Coastal forest [version 2; peer review: 1 approved, 1 approved with reservations]

Previously titled: Spatial response of the globally-endangered Sokoke Pipit (*Anthus sokokensis* van Someren, 1921) to habitat modification in an Eastern Arc Coastal Forest

Nickson Erick Otieno<sup>1</sup>, David Ngala<sup>2,3</sup>, Alex Mwalimu<sup>3,4</sup>

Author details

### Abstract

The Arabuko-Sokoke forest is the largest relic of a formerly larger contiguous East African coastal forest. It forms part of the Eastern Arc Mountains and Coastal forest ecoregion which is a global biodiversity hotspot with considerable species endemism. Despite such conservation significance, the forest is undergoing rapid modification and habitat loss mainly from anthropogenic pressures, with negative impacts on sensitive species such as the Sokoke Pipit (*Anthus sokokensis*), one of the globally-endangered birds. The study examined impacts of habitat degradation on the species' population and spatial occurrence within three blocks of *Brachystegia* woodland in this forest. Over a three week period, six 1km transects were used to estimate the species' population in relation to major habitat quality variables. Sokoke Pipits occurred at an overall mean density of  $0.72 \pm 0.15$  birds/ha with an estimated population of 5,544 in the *Brachystegia* woodland. Tree logging intensity was the key cause of the degradation of the Sokoke Pipit's critical habitat, which affected its density ( $R^2 = 0.663$ ,  $\beta = -0.814$ ,  $p = 0.048$ ). The species also preferred sites covered with deep floor litter ( $R^2 = 0.769$ ,  $\beta = 0.877$ ,  $p = 0.021$ ) even in areas with low tree canopy height, but showed no clumped distribution ( $\chi^2_{(2, 0.05)} = 2.061$ ). The species generally occurred at very low densities in sites with intensive elephant activity that accelerated habitat modification by felling trees and opening the understorey. We conclude that although human-driven tree removal is a major driver of overall degradation of the Sokoke Pipit's critical habitat, elephant activity may be an

### Open Peer Review

Reviewer Status ? ✓

#### Reviewer Reports

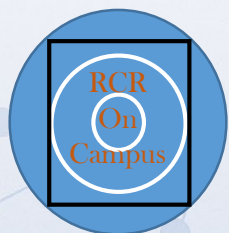
	Invited Reviewers	
	1	2
Version 2 (revision) 22 May 14	? read	✓ read
Version 1 18 Feb 14	✗ read	? read

- Jeremy Lindsell, A Rocha International, Cambridge, UK
- John Banks, University of Washington, Tacoma, WA, USA

#### Comments on this article

All Comments (0)

Add a comment



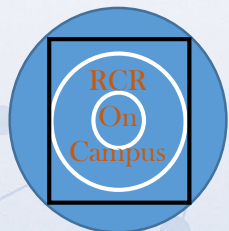
Otieno NE, Ngala D and Mwalimu A. Spatial response of the globally-endangered Sokoke Pipit (*Anthus sokokensis* van Someren, 1921) to habitat degradation in an Eastern Arc Coastal forest [version 2; peer review: 1 approved, 1 approved with reservations]. *F1000Research* 2014, 3:59 (<https://doi.org/10.12688/f1000research.3-59.v2>)

# Excerpts from a Constructive Review

“This article addresses the links between habitat condition and an endangered bird species in an important forest reserve (ASF) in eastern Kenya. It addresses an important topic, especially given ongoing anthropogenic pressures on this and similar types of forest reserves in eastern Kenya and throughout the tropics. Despite the rather small temporal and spatial extent of the study, it should make an important contribution to bird and forest conservation. There are a number of issues with the methods and analysis that need to be clarified/addressed however; furthermore, some of the conclusions overreach the data collected, while other important results are given less emphasis that they warrant. Below are more specific comments by section:

## Results:

The pruning result is arguably the most important one here – this suggests an intriguing trade-off between poaching and bird conservation (in particular, the suggestion that pruning by poachers may bolster Pipit populations – or at the very least mitigate against other aspects of habitat degradation). Worth highlighting this more in Discussion.”



# Peer Reviewing Tips

## 3. Manage Your Time

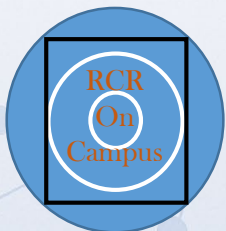
“ *Don't underestimate the time it takes to carefully analyze a manuscript and write a constructive review.*

– **Hugues Abriel**, University of Bern

## 4. Organize Your Comments

“ *When listing your specific concerns, separate them into “major” and “minor” points and, if your list is very long, consolidate the most minor points.*

– **Robert Fisher**, Mount Sinai School of Medicine



# Good Reviews Take Time



Image: Evan Frost, MPR News, 11/1/2019

Should your service as a reviewer for scholarly publications be rewarded?

If yes, how?



# Reviewer Acknowledgement

Plant Health Progress ♦ 2019 ♦ 20:1

<https://doi.org/10.1094/PHP-20-1-1>



## Acknowledgment of Reviewers: 2018

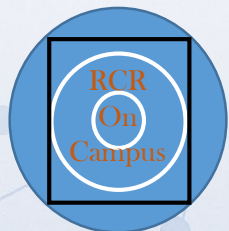
The impact of *Plant Health Progress* rests on the quality of manuscripts submitted by authors and on the care with which they are reviewed. The journal's Editorial Board is very grateful to the individuals listed below, who provided constructive critical reviews of one or more manuscripts during the year.

AbdelAziz AbdelGadir  
Krishna Acharya  
Adekunle Adesanya  
Anthony Adesemoye  
Salman Ahmad  
Firas Ahmed  
Giuliana Albanese  
Sajeewa Amaradasa

Christopher Currey  
Jon Daniels  
Margery Daughtrey  
Patricia de Sa Snow  
Cécile Desbiez  
Lindsey du Toit  
Margaret Ellis  
Thomas Evans

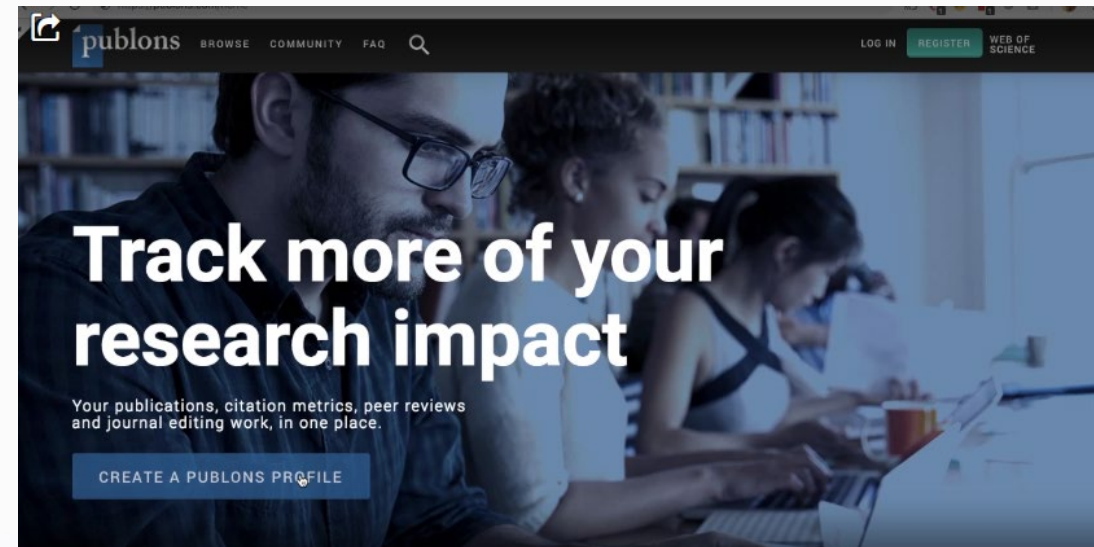
Steven Jeffers  
Young-Ki Jo  
Melanie Kalischuk  
Yuba Kandel  
Anthony Keinath  
Seid-Ahmed Kemal  
James Kerns  
Nathan Kleczewski

Bindu Poudel  
Paul Price III  
Fabio Quaglino  
Richard Raid  
Jennifer Randall  
Andres Reyes Gaige  
Gianfranco Romanazzi  
Patrick Rydzak



# Publons from Clarivate Analytics Web of Science

- Evidence of peer review scholarly output
- Recognition for your contributions as a reviewer

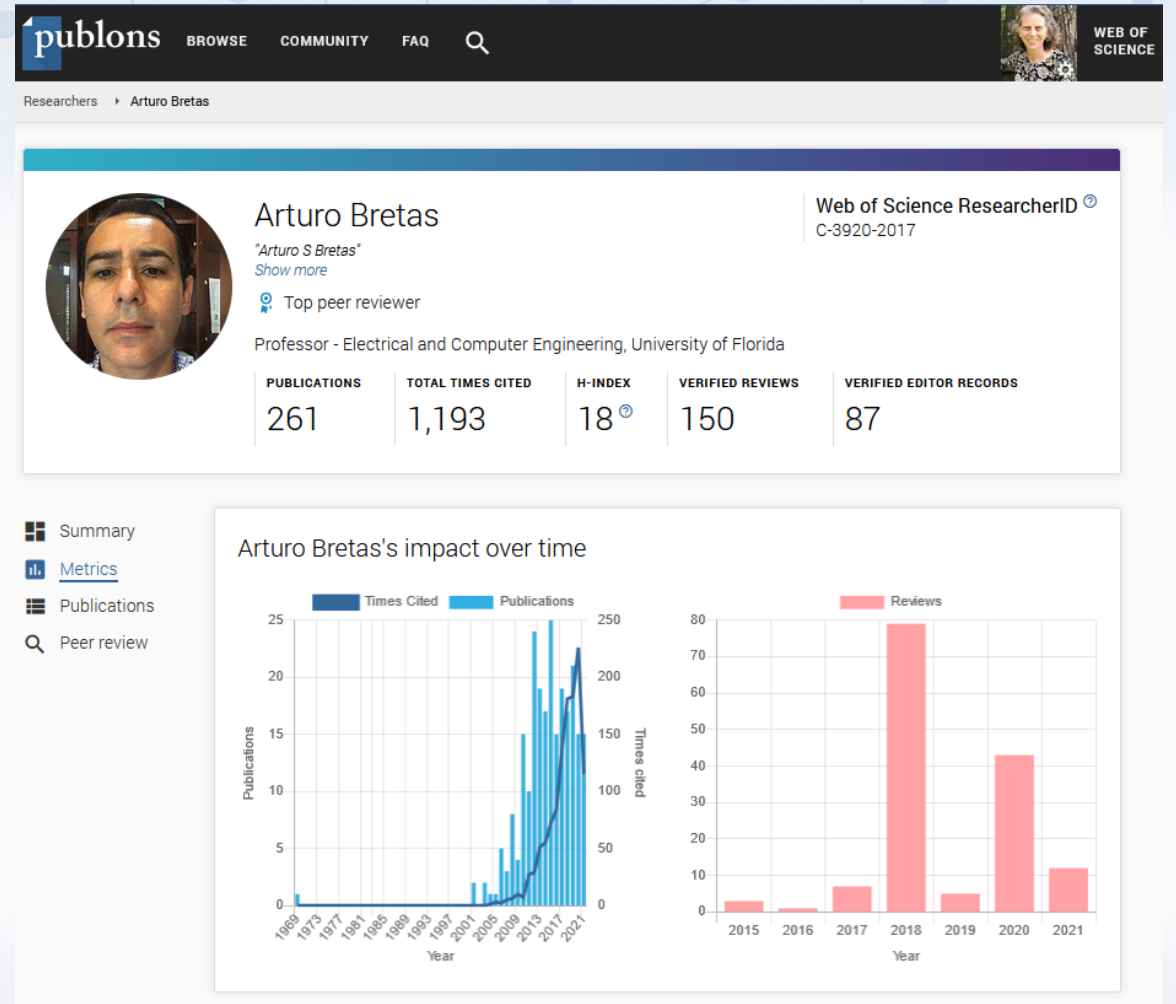


<https://publons.com>

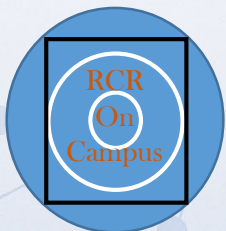
# Publons: A look inside

## Tips:

- Explore your research field
- Create a free profile with areas of expertise and availability



Publons Public Profile Metrics  
for Dr. Arturo Bretas, UF Electrical & Computer Engineering, 6/24/2021



# Publons: Review Metrics by Discipline

The screenshot shows the 'Review metrics' page on Publons. On the left is a navigation menu with 'Summary', 'Metrics' (selected), 'Publications', and 'Peer review'. The main content area is titled 'Review metrics' and includes a description: 'Compare review statistics to aggregate statistics for any research field on Publons using the form below. Leaving the form blank will compare statistics to all research fields on Publons.' Below this is a search bar with 'ALL' and 'Electrical Power Engineering' (1102 RESEARCHERS) buttons, and a 'SUBMIT' button. The results are presented in three columns: 'VERIFIED REVIEWS' (150, Median: 13, 94th percentile), 'VERIFIED REVIEWS (LAST 12 MONTHS)' (32, Median: 3, 89th percentile), and 'REVIEW TO PUBLICATION RATIO' (0.6:1, Median: 0.4:1).

VERIFIED REVIEWS	VERIFIED REVIEWS (LAST 12 MONTHS)	REVIEW TO PUBLICATION RATIO
150	32	0.6:1
Median: 13 94th percentile	Median: 3 89th percentile	Median: 0.4:1





# Develop Skills as a Reviewer



## A Few Reviewer Certification Programs

- Web of Science Academy

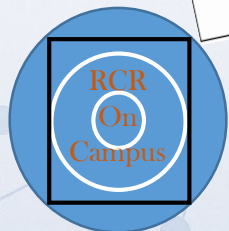
<https://webofscienceacademy.clarivate.com/learn>

- BioMedical Journal Reviewer Training

<https://www.bmj.com/about-bmj/resources-reviewers/training-materials>

- The Optical Society OSA Reviewer Certification

[https://www.osapublishing.org/reviewer\\_certification/?module=getting\\_started](https://www.osapublishing.org/reviewer_certification/?module=getting_started)



# Be Constructive

“Be constructive, view your reviewer role as an opportunity to help improve the paper you are reviewing.”

B. MacIver, Stanford University

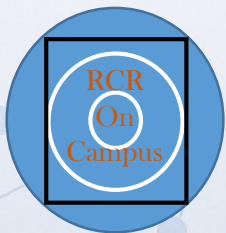




# Reviewers are rated

Editors and Publishers rate their Reviewers on:

- Timeliness
- Quality of Review
- Good Communication



# Discussion

Academic musing by Hendry, Bolnick, and awesome guests.

Tuesday, November 4, 2014

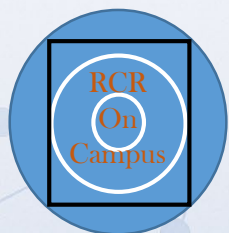
## How to be a reviewer/editor

Many articles have been written about how to be a good/responsible/fair/rigorous/timely reviewer or editor. Having now reviewed more than 400 papers and having been an editor for 100 more, I find myself developing rather strong opinions on the subject. If those opinions meshed nicely with the ones previously published, a blog wouldn't be needed – but they don't. Instead, I find myself holding rather different views on how to be a reviewer and editor. As time has gone on, these opinions have strengthened, not weakened, and so perhaps it is time to get them out there.

### How to be a reviewer – 1 simple rule.

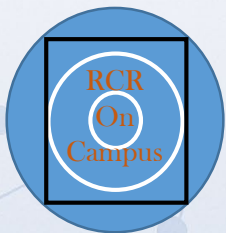
Don't reject papers!!!!!! How's that for a minority opinion? Even before we start our reviewing careers, we are told to be very stringent and critical and to only accept the very best stuff. But – as I will explain – this does not work.

As a reviewer, your goal is to improve the scientific literature, which you can achieve by helping good papers get published, by stopping bad papers from getting published, and by improving papers before publication. The straight-up reality is that the second option is out: you simply can't keep stuff out of the literature. Hundreds of journals exist and so rejecting a paper at one journal just means it will end up getting published in some other journal (Fig. 1), especially in this new age of pay-as-you-go open access publishing. Worse yet, if you reject a paper, the authors have no obligation to follow your suggestions for improvement. Thus, rejecting a paper actually makes the scientific literature WORSE. Instead, you want to keep whatever paper you are reviewing in play at the same journal. That way, the author will be encouraged/required to follow your suggestions for improvement. You and the authors can work together to craft the best possible paper – what a wonderful world (Fig. 2).



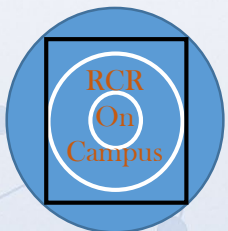
Eco Evo Eco Evo blogpost, 11/4/2014.  
<https://ecoevoevoeco.blogspot.com/2014/11/how-to-be-reviewereditor.html>

# Best Practices & Recommendations



# Best practices

- Agree to review manuscripts in your area of subject expertise
- Respect the confidentiality policy of the journal
- Do not use information obtained during the peer-review process
- Declare all Conflicts of Interests before accepting invitation to review
- Train and practice



# Selected Resources

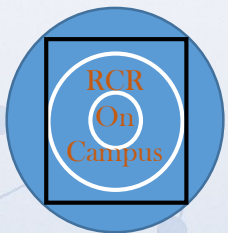
- 10 Simple Rules for Reviewers by P E Bourse & A Korngreen, <https://doi.org/10.1371/journal.pcbi.0020110>
- Standing Up for Science 3: Peer Review; The nuts and bolts: A guide for early career researchers  
<https://senseaboutscience.org/activities/peer-review-the-nuts-and-bolts/>
- PLOS Peer Review Essential Series, <https://plos.org/resources/for-reviewers/peer-review-toolbox/>
- Opinions & Discussions about Peer Review Process from the Scholarly Kitchen blog archive, <https://scholarlykitchen.sspnet.org/collection/peer-review/>



# Thank you!

Please take the survey at:

[https://ufl.qualtrics.com/jfe/form/SV\\_1WVLQUcrykr7YFM](https://ufl.qualtrics.com/jfe/form/SV_1WVLQUcrykr7YFM)





# Questions?

Michelle Leonard  
mleonard@uflib.ufl.edu

Suzanne Stapleton  
suzanne@ufl.edu



# If You Suspect Research Misconduct...

Research Misconduct means **fabrication, falsification, or plagiarism** in proposing, performing, or reviewing research, or in reporting research results.

Questionable Research Practices are reports of **careless, irregular, or contentious research practices**, as well as authorship disputes, may not meet the standard for research misconduct but may be a research integrity violation.

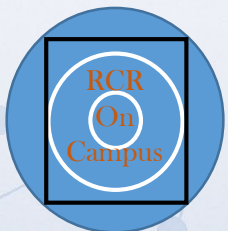
Make a **confidential report** to the UF Research Integrity Officer (RIO)

**Cassandra C. Farley**  
(352) 273-3052 | [cfarley@ufl.edu](mailto:cfarley@ufl.edu)

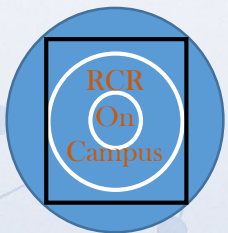
You may also report anonymously  
UF Compliance Hotline: 877-556-5356



*Still not sure if it is Misconduct or a QRP? The RIO can help you better understand the situation. You can speak in hypotheticals as you consider making an official allegation.*



# JUR Peer Review Rubric

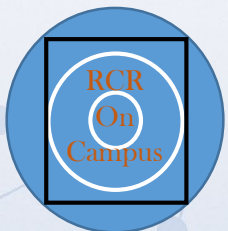


# Additional Case Study

Alana is a medical student researcher in the laboratory of Prof. Hayes. Prof. Hayes has received a manuscript for review for possible publication in a biomedical journal and asks Alana to review the manuscript.

Alana knows that the review process is intended to be confidential, so she asks if the journal editor has been notified of this request. Prof. Hayes says that this is not necessary.

Alana asks for your advice.



<http://research-ethics.net/topics/peer-review/#discussion>