

Submission System Tools that Help Editors Detect Fraud and Ethical Lapses

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Outline of Topics

INTRODUCTION

Aries Systems Products Product Management Resources

PEOPLE & IDENTITY

ORCID Authors, coauthors & reviewers Institutions Conflict of interest

QUALITY ASSURANCE TOOLS

Duplicate submissions & plagiarism Image manipulation Reference checking Statistical & methodological review

FOCUS ON REVIEWERS

What to look for Tools for discovery ORCID Reviewer-finder services

FAIR DATA

Findable Accessible Interoperable Reusable

Conflict of Interest: I am an employee of Aries Systems, a Reed Elsevier Company, owned by RELX. I have no other conflicts to report.

Aries Systems Overview



Web-based manuscript submission and peer review tracking



Web-based production tracking

The Aries Difference

Aries Systems transforms the way scholarly publishers bring high-value content to the world. The company's innovative and forward-looking workflow solutions help publishers manage the complexities of modern print and electronic publishing – from submissions, through editing and peer review, to production tracking.

- 6,500+ publications, 250+ customers
- Continuous, seamless development 35 releases over 16 years
- High-availability hosting service 99.97%+ service availability for last 10 years
- Annual \$6 million R&D investment
- Extensive ecosystem integration purpose-built APIs
- Best user-friendly self-configuration solution save time, save money

Product Management

- Tony Alves, Director of Product Management
 - 25+ years of scholarly publishing experience
 - 17 years with Aries Systems



• Nine Systems Analysts/Project Managers in US and UK

- Mix of experience including scholarly publishing
- Involved in a project from inception through to release
- Focused on solving business problems
 - What are you trying to accomplish?
 - What barriers do you face?
 - Analyze industry trends
 - Propose & design solutions



Committee on Publication Ethics



COPE is committed to educate and support editors, publishers and those involved in publication ethics with the aim of moving the culture of publishing towards one where ethical practices becomes the norm, part of the publishing culture. Our approach is firmly in the direction of influencing through education, resources and support of our members alongside the fostering of professional debate in the wider community.

https://publicationethics.org

International Committee of Medical Journal Editors



The ICMJE is a small working group of general medical journal editors whose participants meet annually and fund their own work on the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals.

ICMJE develops recommendations to review best practice and ethical standards in the conduct and reporting of research and other material published in medical journals, and to help authors, editors, and others involved in peer review and biomedical publishing create and distribute accurate, clear, reproducible, unbiased medical journal articles. The recommendations may also provide useful insights into the medical editing and publishing process for the media, patients and their families, and general readers.

http://www.icmje.org

Center for Open Science



The mission of the Center for Open Science (COS) is to increase openness, integrity, and reproducibility of research. We envision a future scholarly community in which the process, content, and outcomes of research are openly accessible by default. All scholarly content is preserved and connected and transparency is an aspirational good for scholarly services. All stakeholders are included and respected in the research lifecycle and share pursuit of truth as the primary incentive and motivation for scholarship. Achieving the mission requires culture change in the incentives that drive researchers' behavior, the infrastructure that supports research, and the business models that dominate scholarly communication.

https://cos.io

Retraction Watch



The mission of the Center for Scientific Integrity, the parent organization of Retraction Watch, is to promote transparency and integrity in science and scientific publishing, and to disseminate best practices and increase efficiency in science.

The goals of the Center fall under four broad areas:

- A database of retractions, expressions of concern and related publishing events, generated by the work of Retraction Watch. The database will be freely available to scientists, scholars and anyone else interested in analyzing the information.
- Long-form, larger-impact writing, including magazine-length articles, reports and books.
- Scholarship on scientific integrity and incentives in science.
- Aid and assistance to groups and individuals whose interests in transparency and accountability intersect with ours, and who could benefit from shared expertise and resources.

https://retractionwatch.com

Ethics Statements

Ethics Statement Generator – Generate fully worded ethics statements to

support journal submissions

http://ethicsgen.com/



Ethics Statement Generator Generate fully worded ethics statements to support journal submis	ssions	EthicsGen on Twitter About EthicsGen en cn
Please select the ethics statement sections you wish to generate:		
Human Was your study performed in accordance with the Declaration of Helsinki?	Yes No	
Clinical Trial		
Consent		
Animal Did your study include vertebrate and/or Cephalopods (octopus, squid or cuttlefish)?	Yes No	
Field Study		
Did your study involve field studies (i.e. involving non-vertebrates, plant species, non-living materials)?	Yes No	
Generated Ethics Statement: No statement yet!		Reset

Submission System Tools that Help Editors Detect Fraud and Ethical Lapses



PEOPLE & IDENTITY

- ORCID
- Authors, coauthors & reviewers
- Institutions
- Conflict of interest

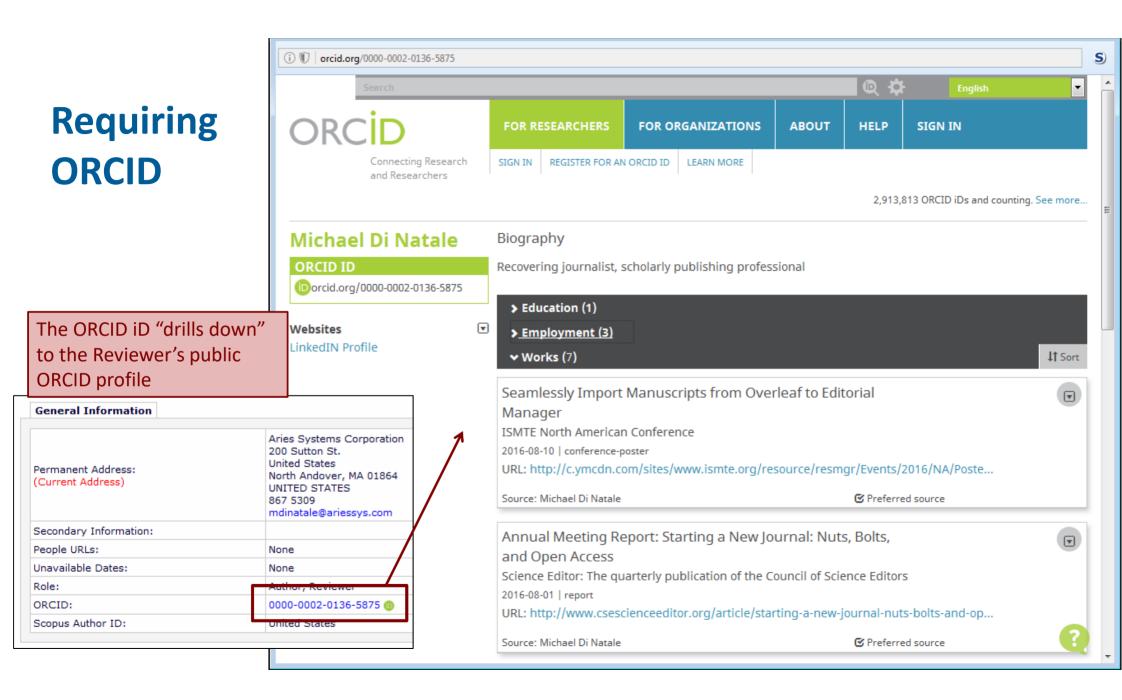
Requiring ORCID



ORCID provides a persistent digital identifier that distinguishes you from every other researcher and, through integration in key research workflows such as manuscript and grant submission, supports automated linkages between you and your professional activities ensuring that your work is recognized.

It is overwhelmingly accepted throughout scholarly publishing that ORCID iDs are a necessary standard that assists in disambiguating people and facilitates system interoperability. Everyone needs to get and use their ORCID iD!

https://orcid.org/

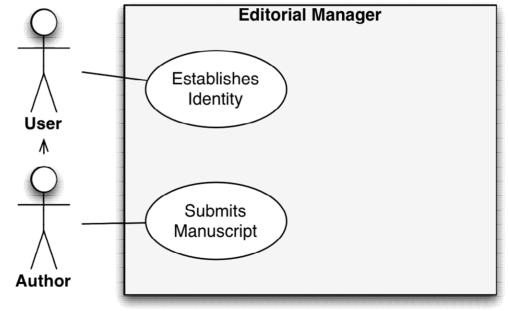


Authentication for Corresponding Authors

Publications want to collect ORCID iDs from Authors so that they can push relevant data along the ecosystem.

- Disambiguation
- Access and Entitlement
- Identification of funding sources

SOLUTION: Publications can REQUIRE ORCID iDs at submission from Corresponding Authors.



ORCID

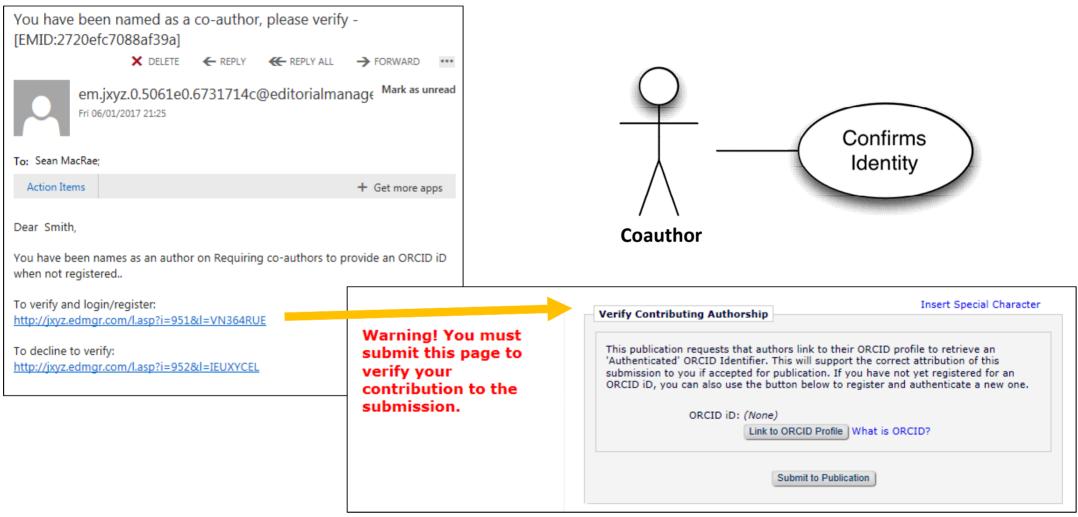
Authentication for Corresponding Authors

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Γ		0000-0003-2647-5154		
	This publication requests that Authors Link to their ORCID record to Authenticate their ORCID iD before they submit. You only need to do this once in order to permanently associate your ORCID record with your user record here.	ORCID Password		
	Use the button below to go to ORCID, log into your record there - or create one - and authorize the return of your ORCID Identifier.	•••••• Forgotten password?		
	ORCID iD: 0000-0001-6615-3438 (b) What is ORCID? This ORCID iD has been Authenticated.			
	Next	Deny	Authorize	

ORCID

Authentication for Coauthors





Identity Confidence Check (ICC)

Various cases of questionable authorship and fraudulent peer review have been in the news the past few years.

Editors need a way to feel confident that Authors and Reviewers are who they say they are – actual real people!

SOLUTION: Generate a *confidence score* for corresponding/contributing Authors and Reviewers, based on factors such as ORCID iD, Ringgold institution data, country selections, email verification, and other sources.

Identity Confidence Check (ICC)

No Score Pass Alert **High Alert Editor Override**

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Identity Confidence Check (ICC)

Michael P. Barlow, M.D. 📥
Search Google Scholar
Email Domain
mbarlow@harvard.edu
Institution
✓ Harvard University
Country
♥United States
EM Activity
Person has an Editor Role on this publication Person has historical Editor assignments on this publication Person has completed 4 reviews for this publication
ORCID Activity
0000-0002-1825-0097 0
Recalculate Now Override Score and Trust this Person People Activity Details Close

Company Confidential - Aries Systems Corporation

Authorship Abuse



PUBLISHED ARTICLE ARCHIVES SUBSCRIPTIONS SUBMISSIONS CONTACT US

PMC full text: Am J Physiol Cell Physiol. Sep 2008; 295(3): C567–C575. doi: 10.1152/ajpcell.00208.2008 Copyright/License ► Request permission to reuse

Table 1.

Types and descriptions of authorship abuse

Type of Authorship	
Abuse	Description
Coercion authorship	Use of intimidation tactics to gain authorship. Arguably a serious form of scientific misconduct (see Ref. 29).
Honorary, guest, or gift authorship	Authorship awarded out of respect or friendship, in an attempt to curry favor and/or to give a paper a greater sense of legitimacy.
Mutual support authorship	Agreement by two or more investigators to place their names on each other's papers to give the appearance of higher productivity.
Duplication authorship	Publication of the same work in multiple journals.
Ghost authorship	Papers written by individuals who are not included as authors or acknowledged.
Denial of authorship	Publication of work carried out by others without providing them credit for their work with authorship or formal acknowledgment. A form o plagiarism and therefore scientific misconduct.

Authorship Abuse

- **Coercion authorship** Use of intimidation to gain authorship. A serious form of scientific misconduct.
- Honorary, guest or gift authorship Authorship awarded out of respect or friendship, in an attempt to curry favor and/or to give a paper a greater sense of legitimacy.
- **Mutual support authorship** Agreement by two or more investigators to place their names on each other's papers to give the appearance of higher productivity.
- **Duplication authorship** Publication of the same work in multiple journals.
- **Ghost authorship** Papers written by individuals who are not included as authors or acknowledged.
- **Denial of authorship** Publication of work carried out by others without providing them credit for their work with authorship or formal acknowledgment. A form of plagiarism and therefore scientific misconduct

Contributor Roles



Project CRediT (Contributor Roles Taxonomy)

- New standard for expressing/classifying the diverse roles played in the work leading to a research output
- Classification includes but is not limited to traditional authorship roles initial taxonomy that classifies fourteen different 'Contributor Roles'
- Each person contributing to a piece of research may be assigned multiple roles

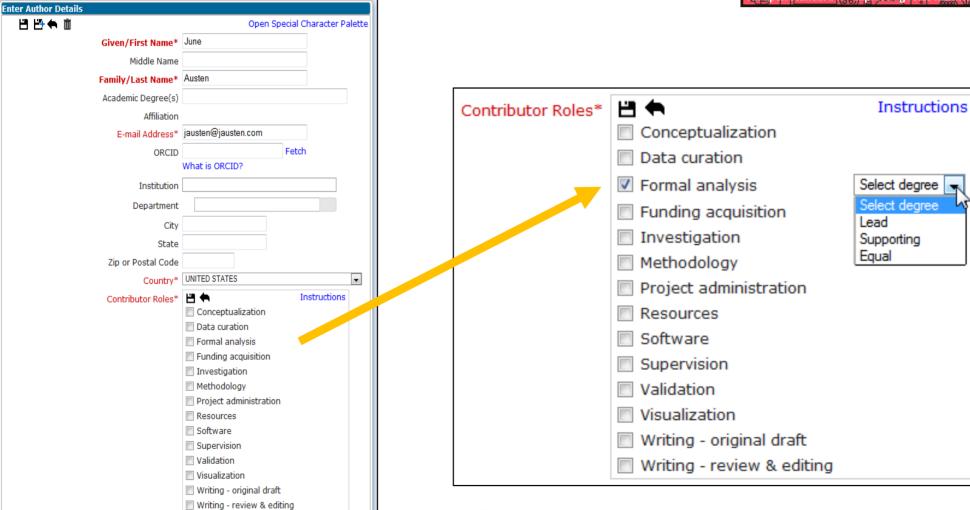
https://casrai.org/credit

Contributor Roles



- **Conceptualization**: Ideas; formulation or evolution of overarching research goals and aims.
- *Methodology*: Development or design of methodology; creation of models.
- **Software**: Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components.
- *Validation*: Verification, whether as a part of the activity or separate, of the overall replication/reproducibility of results/experiments and other research outputs.
- Formal Analysis: Application of statistical, mathematical, computational, or other formal techniques to analyse or synthesize study data.
- Investigation: Conducting a research and investigation process, specifically performing the experiments, or data/evident collection.
- **Resources**: Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools.
- **Data Curation**: Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later re-use.
- Writing Original Draft: Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation).
- Writing Review & Editing: Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision including pre- or post-publication stages.
- Visualization: Preparation, creation and/or presentation of the published work, specifically visualization/data presentation.
- **Supervision**: Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team.
- **Project Administration**: Management and coordination responsibility for the research activity planning and execution.
- **Funding Acquisition**: Acquisition of the financial support for the project leading to this publication.

Contributor Roles





Company Confidential - Aries Systems Corporation

Authorship and Attribution

Publications can require contributing authors to verify that they are coauthors

- An email letter is sent to any Contributing Authors at their respective email address
- %OTHERAUTH_VERIFY_DEEP_LINK% merge field inserts a deep link that allows a coauthor to respond "Yes, I am affiliated."

Contributing	Thank you for verifying your contributing authorship on
Author	"%ARTICLE_TITLE%" submitted by %CORRAUTHOR%
Confirmation	<u>Close Window</u>

• %OTHERAUTH_DECLINE_DEEP_LINK% merge field inserts a deep link that allows a coauthor to respond "No, I am not affiliated."

Decline Contributor Verification	Thank you for taking the time to notify %JOURNALFULLTITLE% that you are not a Contributing Author on %ARTICLE_TITLE% submitted by %CORRAUTHOR%.
	<u>Close Window</u>

Conflicts of interest undermine the reliability of some academic journal articles, and may or may not result in wrongdoing.

Academic publishing has ethical standards in place for identifying conflicts of interest. These standards are unevenly applied, and new standards are always being discussed.

Disclosed and undisclosed conflicts of interest can harm research quality and the public good.

Conflicts of interest can involve research sponsors, authors, journals, journal staff, publishers, and peer reviewers.

The International Committee of Medical Journal Editors (ICMJE) publishes *Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals.*

The ICMJE has created a form to help journals collect COI information. The purpose of this form is to provide editors, reviewers and readers with information about an author's interests that could influence how they receive and understand the research paper.

http://www.icmje.org/conflicts-of-interest

The form is designed to be completed electronically and stored electronically. The form can be uploaded, or it can be replicated in the "Author Questionnaire" function in EM so that the COI responses can be stored in the database and used for reporting.

	TERNATIONAL COMMITT DICAL JOURNAL EDIT	TEE of		SAVE
CMJE Form for Disclosu			rest	
Section 1. Identifying Infor	mation			
1. Given Name (First Name)	2. Surname (Last Name)	2. Surname (Last Name)	3. Date	
4. Are you the corresponding author?	Yes No			
5. Manuscript Title				
6. Manuscript Identifying Number (if you	know it)			
Section 2				

Convey is a global disclosure system developed by the Association of American Medical Colleges (AAMC) that allows publishers and societies to store conflict of interest disclosure information for authors and other members.

Publications that have an agreement with Convey are able to use this system to set up and tailor their COI policy requirements, creating a series of forms and questionnaires within the Convey interface that will be presented to users.

http://www.convey.org



Editorial Manager has an API the

Collects author and reviewer CO submission, at acceptance of the

Additional Manuscript Details:	Add/Edit Additional Manuscript Details		
Corresponding Author:	Duncan James Webber, Aries Systems North Andover, MA UNITED STATES		
Corresponding Author E-Mail:	mdinatale@ariessys.com		
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Short Title:	sdfsdf		
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Submission System Tools that Help Editors Detect Fraud and Ethical Lapses



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QUALITY ASSURANCE TOOLS

- Duplicate submissions & plagiarism
- Image manipulation
- Reference checking
- Statistical & methodological review

Duplicate Submission Check

Journals typically require authors to submit original papers not previously published or currently submitted elsewhere.

Resubmitting a paper to the same journals (or collaborating journals) may be an inadvertent error or intentional self-plagiarism.

Collaborating journals want to explore the prior decisions and reviewer comments if the submission is a full or partial duplicate submission.

Duplicate Submission Check

What Editor sees:

New Submissions - Sally Editor Contents: These are the new submissions that require a Technical Check. Use the up/down arrows to change the sort order. Display Page: 1 of 1 (7 total submissions) Article Article Section/ Author Туре Category Title Name E Action 🔺 AV AV AV View Submission CrossCheck/IThenticate Results (77%) Duplicate Submission Check Results (100%) Initiate Discussion History Technical Check View Reference Checking Results File Inventory Applications of Graphene in Original Buzz Aldrin 🛡 🕅 Edit Submission Research Technology Send Back to Author Remove Submission Classifications Set Final Disposition Initiate Production Google Scholar Title Search Author ORCID profile Send E-mail

Duplicate Submission Check Results – Feb 12 2013 3:32PM Submission "Applications of Graphene in Technology"

The results of a comparison between this submission and previously submitted manuscripts are listed below. A separate similarity score is shown for the Article Title, the list of Authors and the Abstract of a submission. The EM Duplicate Score is the highest weighted average for any of the submissions displayed below.

Potential Duplicate Submissions

Manuscript/Submission Number	Initial Date Submitted	Revision	Current Status	Article Title	Authors	Article Title Similarity	Author Similarity	Abstract Similarity
ALLYDEV100-D-13-00005 /iew Submission Details	Jan 31 2013 4:42PM	1	Submitted to Journal	Applications of Graphene in Technology	Buzz Aldrin, PhD; John Nash, PhD; Charlie Chaplin, PhD	100%	100%	100%
ALLYDEV100-D-11-00873 /iew_SubmissionDetails	Jan 30 2013 3:42PM	2	With Editor	Technology Constant for Visual Transparency of Graphene	Buzz Aldrin, PhD; John Nash, PhD; Charlie Chaplin, PhD	73%	100%	51%
ALLYDEV100-D-12-00043 /iew Submission Details	Nov 14 2012 2:06PM	0	Under Review	Experimental Methods to Produce Graphene Nanoribbons	John Nash, PhD; Charlie Chaplin, PhD; Richard Feynman, PhD	61%	49%	58%
ALLYDEV100-S-10-00345 iew Submission Details	Oct 29 2012 11:34AM	1	Completed	Graphene-based nanotechnology in energy applications	John Henry, PhD; Charlie Chaplin, PhD; Richard Feynman, PhD	57%	51%	49%
ALLYDEV100-D-10-00230 /iew Submission Details	Aug 16 2012 4:23PM	0	Submitted to Journal	Graphene-based composite materials	Buzz Aldrin, PhD; John Smith, PhD; Charlie Chaplin, PhD	56%	48%	51%
ALLYDEV100-D-10-00345 /iew_SubmissionDetails	Jun 30 2010 4:42PM	1	Completed	High-quality and uniform graphene films on copper foils	John Wayne, PhD; John Nash, PhD; Charlie Tuna, PhD	53%	51%	36%
SALLYDEV100-D-12-00343 /iew Submission Details	Nov 14 2012 2:06PM	0	Under Review	Experimental Methods to Produce Graphene Nanoribbons	John Nash, PhD; Charlie Chaplin, PhD; Richard Feynman, PhD	53%	46%	29%
SALLYDEV100-D-10-00345 /iew Submission Details	Jul 14 2011 11:58AM	1	Completed	Flexible Touch Screens with Printed Graphene	Buzz Aldrin, PhD; John Nash, PhD; Will Smith, PhD	45%	53%	53%
SALLYDEV100-D-10-00230 /iew Submission Details	Jan 31 2013 4:42PM	2	Under Review	Two-dimensional material grapheney	Buzz Aldrin, PhD; Jonathan Fry, PhD	42%	51%	51%
SALLYDEV100-D-10-00345 /iew Submission Details	Aug 23 2012 9:32AM	1	Under Review	Graphene - A Material for all Seasons	Buzz Aldrin, PhD; John Nash, PhD; Mary Chaplin, PhD	39%	51%	26%
SALLYDEV100-D-13-00015 /iew Submission Details	Feb 28 2013 4:42PM	1	Submitted to Journal	Two-dimensional materials in Technology	Buzz Aldrin, PhD; John Adams, PhD; Charlie Tuna, PhD	39%	33%	43%
SALLYDEV100-D-10-00345 /iew_SubmissionDetails	Jan 30 2013 3:42PM	2	With Editor	Experimential Methods in Technology	Buzz Aldrin, PhD; Nick Fry, PhD; Mary Tyler Moore, PhD	33%	33%	51%
SALLYDEV100-D-12-00023 /iew Submission Details	Nov 14 2012 2:06PM	0	Under Review	Experimental Methods in Nanoscience	James Madison, PhD; Charlie Sheen, PhD; Richard Feynman, PhD	33%	29%	48%
SALLYDEV100-D-10-00345 View Submission Details	Oct 29 2012 11:34AM	1	Completed	Industrial Applications of Materials	Buzz Aldrin, PhD; Mary Chaplin, PhD	27%	51%	49%
SALLYDEV100-D-10-00230 /iew Submission Details	Aug 16 2012 4:23PM	0	Submitted to Journal	A study of composite materials	John Nash, PhD; Mary Chaplin, PhD	27%	48%	51%
SALLYDEV100-D-10-00345 /iew Submission Details	Jun 30 2010 4:42PM	1	Completed	Large-Area Synthesis of High- Quality Films on Copper Foils	Jane Austen, PhD; Margaret Mitchell, PhD; Charlie Tuna, PhD	19%	16%	36%
ALLYDEV100-D-10-00230 /iew Submission Details	Jan 31 2013 4:42PM	0	Submitted to Journal	Trends in Toxicology	Dick Clark, PhD; Stephen Fry, PhD; Mary Adams, PhD	15%	16%	29%
SALLYDEV100-D-10-00345 /iew Submission Details	Jul 14 2011 11:58AM	1	Completed	Applications in Neuroscience	Elizabeth Barrett, PhD; John Fry, PhD; Geraldine Chaplin, PhD	15%	16%	16%
ALLYDEV100-D-13-00130 /iew_SubmissionDetails	Jan 31 2013 4:42PM	2	Under Review	Applications of Computers in Education	Daniel Day Lewis, PhD; John Fry, PhD; Mary Madison, PhD	12%	16%	26%
SALLYDEV100-D-12-00245 View Submission Details	Aug 23 2012 9:32AM	1	Under Review	Applications of Information Technology	Keith Moon, PhD; John Fry, PhD; Mary Chaplin, PhD	13%	15%	16%

Similarity Checking



Crossref has facilitated an online service used to check for similarity between new manuscripts and published papers called Similarity Check. It is based on iThenticate text-comparison service from Turnitin, LLC.

Participating publishers allow iThenticate to load published papers into their system, building a database of published material to use for comparison. iThenticate can also draw on other sources of information, such as general Web pages.

For editorial originality, Similarity Check helps editors compare the text of submitted papers for similarity. The service helps journals to engage in efforts to prevent scholarly and professional plagiarism.

https://www.crossref.org/services/similarity-check http://www.ithenticate.com



Similarity Checking

<u>View Submission</u> <u>CrossCheck/iThenticate Results</u> (17%) <u>Details</u> ♥ Ø	[x)
History <u>Technical Check</u> <u>File Inventory</u> <u>Edit Submission</u> Send Back to Author	CrossCheck Status Summary: % = highest similarity score, = a similarity check is in progress, X = a similarity check could not be processed
<u>Remove Submission</u> <u>Classifications</u> <u>Set Final Disposition</u> <u>Send E-mail</u>	



Similarity Checking

Secure https://api.ithenticate 15-Nov-2017 02:51PM	e.com/en_us/dv/0425?lang=en_us&o=324				FAQ
iThenticate	5. JO	476 words • 9 matches • 7 sources JOURNALA-S-17-00149.pdf BY JOHN BLACKSTONE		Quotes Excluded Bibliography Excluded	
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Manuscript Number:	nite propagation of speed of sound way Manuscript Draft		1	Crossref 248 words Kostrykin, Vadim, Jürgen Potthoff, and Robert Schrade "Finite propagation speed for solutions of the wave equatio	49%
Full Title: Abstract:	The finite propagation of speed of sound waves		2	Internet 105 words crawled on 29-Aug-2017 edocs.fu-berlin.de	21%
			3	Internet 34 words crawled on 28-Jul-2017 documents.mx	7%
			4	Crossref 28 words Olivier Faugeras. "Absolute Stability and Complete Syncl onization in a Class of Neural Fields Models", SIAM Journa	6%
			5	Internet 24 words crawled on 24-Mar-2016 tareksobh.net	5%

Image Manipulation

Research integrity and reproducibility remain a major concern for the academic world.

Researchers change images to make their results more consistent or convincing. Inappropriate image manipulation is not good for the ecosystem of science.

There is little consistency in how journals handle this problem. Some screen all images, while others do spot checking, or no checking at all.

The Prevalence of Inappropriate Image Duplication in Biomedical Research Publications (American Society for Microbiology; Bik, Casadevall, Fang): The images from a total of 20,621 papers published in 40 scientific journals from 1995 to 2014 were visually screened. Overall, 3.8% of published papers contained problematic figures, with at least half exhibiting features suggestive of deliberate manipulation. (https://mbio.asm.org/content/7/3/e00809-16.long)

Image Manipulation



Image Data Integrity, Inc. (IDI) provides a variety of services—from rendering opinions about specific images, to screening all images in selected manuscripts or published articles, to evaluating source data underlying images in prepared figures, to communicating with authors, to consulting on the consequences of an investigation.

What's in a picture? The temptation of image manipulation (Journal of Cell Biology; Rossner, Yamada): This article provides general guidelines for the proper handling of digital image data and provides specific examples to illustrate pitfalls and inappropriate practices. There are different degrees of severity of a manipulation, depending on whether the alteration deliberately changes the interpretation of the data. For example, creating a result is worse than making weak data look better. Any manipulation that violates these guidelines is a misrepresentation of the original data and is a form of misconduct. (http://jcb.rupress.org/content/166/1/11.full)

Image Manipulation



Germany's HEADT Centre (Humboldt-Elsevier Advanced Data and Text Centre) has been working on an image integrity database (IIDB).

A beta version of the database is now ready, and the HEADT Centre is planning a series of "competitions" in which researchers will be invited to explain how they would use the database to develop and improve manipulation detection algorithms.

"Many of the prominent cases of scientific misconduct you see in the news involve image manipulation to some degree. These cases are only the tip of the iceberg, though I'd say the majority of cases are accidental, for example, wrongly-labelled files executed by inexperienced staff, or perhaps a lack of awareness about what's acceptable." – Thorsten Beck, PhD, HEADT Centre researcher

http://headt.eu

Bibliography and Reference Checking

Checking references manually is a long process, subject to error.

Relying on editors and reviewers is not enough.

Easy access to reference abstracts helps everyone evaluate reference quality.

Reference Checking and Clean Up



Author uploads a Word file into Editorial Manager.

eXtyles[®] reference processing tools automatically extract the author's unformatted bibliography and use heuristics to analyze, "peel apart" and restructure the references.

Citation elements (such as article type, author, volume, issue, etc.) are tagged in XML and used to construct search queries to external databases, such as PubMed[®] and CrossRef[®], to validate the citations.

Editors and reviewers can click on links to access those citations during peer review.

https://www.inera.com

Reference Checking and Clean Up



INERA

Statistical and Methodological Review

Most peer reviewers are not formally trained and have limited ability to detect relevant or even simple errors. It has been observed that despite good intentions, peer reviewers often provide inaccurate methodological, including statistical, criticism or advice to submitting authors (Altman, 2002; Cicchetti, 1991).

Only a very small fraction of journals, usually the top tier journals, employ a professional statistician to assist in the review process.

A simple lack of qualified/unbiased reviewers who have time to volunteer for conducting peer review. The best scientists are often the busiest and rarely have time to volunteer for peer review.

StatReviewer Integration



StatReviewer is a third-party tool that examines a manuscript PDF and returns information about the quality of the article's statistical information.

The tool runs thousands of proprietary algorithms against the manuscript, checking for numerical errors, appropriate statistical texts, style, and methodological reporting using industry standards, such as Consort 2010, STROBE, STARD, etc.

The result is a report delivered to EM via an API.

This report serves as an automated, non-human "Reviewer" that returns results in minutes and supports the Editor review and decision process.

http://www.statreviewer.com



StatReviewer Integration

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Page: 1 of 2 (26 total submission	Page: 1 of 2 (26 total submiss		
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View Submission Similarity Check/iThenticate Results (97%) Bibliometric Intelligence Results (X) StatReviewer Results Details V Initiate Discussion History Technical Check View Reference Checking Results File Inventory Edit Submission Send Back to Author Remove Submission Classifications Set Final Disposition Initiate Production Similar Articles in MEDLINE Send E-mail Linked Submissions Search Google.com	DMITRIDEV141-D-16-00047	Similarity Check/iThenticate Results (97%) Bibliometric Intelligence Results (X) StatReviewer Results () Details ♥ Initiate Discussion Page: 1 of 2 (26 total submission Page: 1 of 2 (26 total submission Similarity Check/iThenticate Results (97%) Bibliometric Intelligence Results (X) StatReviewer Results (X) Details ♥ Initiate Discussion History	ns) Manus



StatReviewer Integration

Statistical Analyses

Please report the nature of the hypothesis testing (e.g., two-tailed testing is used by convention).

More Information About This Issue

The nature of the proposed hypothesis and corresponding statistical test dictates whether directional (one-tailed) or nondirectional (two-tailed) significance tests are conducted. In essence, the researcher is able to allocate statistical power to detect differences in one direction (eg, response to treatment A > placebo) or in two directions (eg, response to treatment A \neq placebo; either > or < than placebo). Two-sided tests are used for the vast majority of hypothesis testing, so unless a good reason exists to use a one-sided test, it is recommended that two-sided testing be used.

Examples

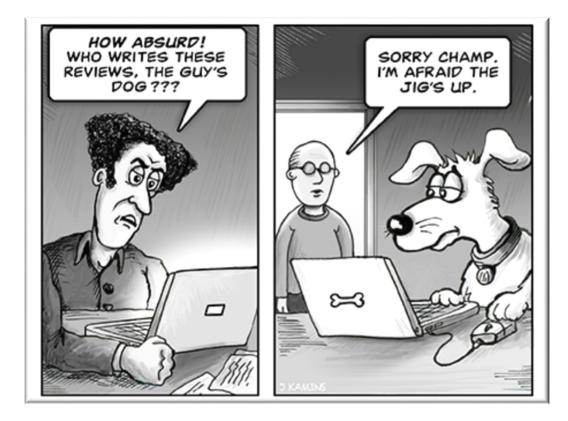
Example 1: "Two-sided hypothesis testing was used". Example 2: "A two-sided test of significance was use with p < 0.05".

Additional Resources

A great tutorial on one and two-sided testing is available at the help pages of the UCLA Institute of Digitial Research and Education: https://stats.idre.ucla.edu/other/mult-pkg/faq/general/faq-what-are-the-differences-between-onetailed-and-two-tailed-tests/

company connuential - Aries systems corporation

Submission System Tools that Help Editors Detect Fraud and Ethical Lapses



Focus on Reviewers

- What to look for
- Tools for discovery
- ORCID
- Reviewer finder services

Preventing Reviewer Fraud

Tips to help editors detect possible reviewer fraud:

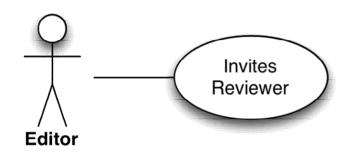
- Use recommended reviewers with institutional email addresses, not personal Gmail, Yahoo, or other free webmail service account.
- Perform a web search (Scopus, Web of Science, PubMed, and Google Scholar) to verify reviewer names, emails, and qualifications.
- Request, or consider requiring, an ORCiD iD from reviewers.
- Check the turnaround time of the review. Was it returned unusually fast?
- Consider if the reviews are superficial and overly favorable

5 tips to Help Prevent Reviewer Fraud (The Wiley Network, Alexandra Cury): To facilitate the process of finding suitable reviewers, many journals allow authors to nominate reviewers at the submission stage. (https://hub.wiley.com/community/exchanges/discover)

Email Domain Check	Configure Email Domain Exceptions for Identity Confidence Check Please enter any email domain extensions you want specified as exceptions. Wildcards (*) may be used to extend the breadth of email domains covered. For example, yahoo.co* includes the following			
Michael P. Barlow, M.D.	domains: yahoo.com, yahoo.co.jp, yahoo.co.fr, etc. Entry of *.ac.* includes academic institution domains in many countries. The information entered below should include everything after the @ for the email domain.			
Search Google Scholar	Email addresses evaluated with these domains are allocated a pass, alert or high alert on the Identity Confidence Scorecard. If a person has an email domain that is not specificied on this page, the email address is ignored by the Identity Confidence Check for that person.			
Email Domain mbarlow@harvard.edu Institution Harvard University Country United States EM Activity	Pass			
 Person has an Editor Role on this publication Person has historical Editor assignments on this publication Person has completed 4 reviews for this publication ORCID Activity 0000-0002-1825-0097 	Add High Alert Add			
Recalculate Now Override Score and Trust this Person People Activity Details C	Cancel Submit			

Authentication for Reviewers





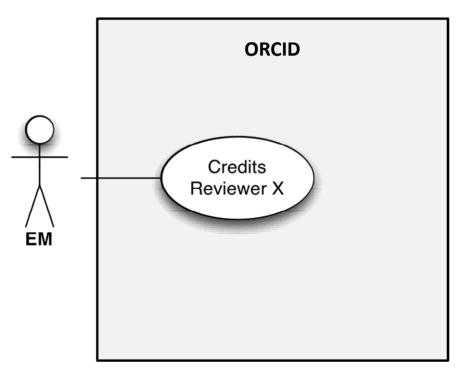
- When choosing Reviewer, Editor looks for experience
 - Past authorship
 - Past reviews
 - External information, reputation, standing
- ORCID is not just an identifier; there's a profile behind it
 - ORCID iDs shown in EM allow drill-through to public ORCID record
 - Should become source of all of the above

(i) 🗊 orcid.org/0000-0002-0136-5875 S) • **Authentication** FOR RESEARCHERS FOR ORGANIZATIONS ABOUT HELP SIGN IN for Reviewers REGISTER FOR AN ORCID ID Connecting Research SIGN IN LEARN MORE and Researchers 2,913,813 ORCID iDs and counting. See more... **Michael Di Natale** Biography The ORCID iD "drills down" ORCID ID Recovering journalist, scholarly publishing professional to the Reviewer's public Dorcid.org/0000-0002-0136-5875 **ORCID** profile > Education (1) Websites > Employment (3) LinkedIN Profile Works (7) IT Sort General Information Seamlessly Import Manuscripts from Overleaf to Editorial Aries Systems Corporation 200 Sutton St. Manager United States Permanent Address: ISMTE North American Conference North Andover, MA 01864 (Current Address) UNITED STATES 2016-08-10 | conference-poster 867 5309 URL: http://c.ymcdn.com/sites/www.ismte.org/resource/resmgr/Events/2016/NA/Poste... mdinatale@ariessys.com Secondary Information: Source: Michael Di Natale C Preferred source People URLs: None Unavailable Dates: None Annual Meeting Report: Starting a New Journal: Nuts, Bolts, Role: and Open Access 0000-0002-0136-5875 🔞 ORCID: Science Editor: The quarterly publication of the Council of Science Editors Scopus Author ID: United States 2016-08-01 | report URL: http://www.csescienceeditor.org/article/starting-a-new-journal-nuts-bolts-and-op... C Preferred source Source: Michael Di Natale

Upload Peer Review Details

ORCID

- Reviewers can request their review activity be uploaded to their ORCID record.
- Reviewers cannot claim credit themselves.
- Only authorized publications can provide review activity to ORCID.
- Publication controls what information is sent, and when it happens.



Preventing Reviewer Fraud

Tips to help journal staff detect fraud:

- Editor registers as a reviewer, or assigns himself to a submission, and uploads a biased report.
- Editor asks a member of the author's research group to review a manuscript.
- Editor chooses to ignore some reports and picks up reports which align with her premeditated decision.
- Prior to official decision, Editor reveals an unfavorable review to the author, who is an international expert, and then buries the review in favor of more positive ones.
- Editor frequently uses author-suggested reviewers.
- Editor makes quick decisions and does not provide detailed feedback to the author.

Discovering Reviewers



- EM integration with Pivot, a curated database of 3 million+ scholars
- Detailed contact information including email address(es)
- Expertise keywords and prior publications
- Prior colleagues and departments
- Warning of duplicate matches with existing records
- Full API integration with EM allows seamless ingest and invite with a few clicks

Comprehensive Profile

Mozilla Firefox		
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	Reviewer Discovery from ProQuest Community of Scholars E. Antonio Chiocca	
Profile	Close	_
Past Affiliations:	Dana-Farber/Harvard Cancer Center MGH Brain Tumor Center Department of Neurosurgery Department of Neurosurgery	
Qualifications:	MD, , University of Texas BS, , University of Texas at El Paso PhD, , University of Texas	
Honors and Awards:		
Memberships:		
Languages:		
Personal Keywords:	Neuroscience Neurological Surgery Biomedical Science Oncology	
Expertise:	Research Area: • biologic therapies and applications to disorders of the central nervous system • functional genomics in brain tumors • immune responses to gene delivery vehicles (more)	
Patents & Grants		
Patents:	Interdisciplinary Tumor Complexity Modeling, NIH, Interdisciplinary Tumor Complexity Modeling, NIH, HSV Amplicon Vectors for Cerebral Ischemia, NIH, HSV Amplicon Vectors for Cerebral Ischemia, NIH, HSV Amplicon Vectors for Cerebral Ischemia, NIH, INTERDISCIPLINARY DEVELOPMENT OF A COMPUTATIONAL TUMOR M, NIH, INTERDISCIPLINARY DEVELOPMENT OF A COMPUTATIONAL TUMOR M, NIH, PHARMACOLOGIC ENHANCEMENT OF VIRAL ONCOLYSIS, NIH, OPTIMIZATION OF CYTOCHROME P450, NIH, PHARMACOLOGIC ENHANCEMENT OF VIRAL ONCOLYSIS, NIH,	





Comprehensive Profile

Grants:	, Meth	nod of selectively destroying neop	lastic cell	s, unkni	own		1	
Summariz	ed Publications	1						
Total Artic	les	210						
Total Book	Chapters	0						
Total Confrence Papers		0						
fotal Othe	r	0						
Most Rece	nt Publications	1						
Publicatio Date	n Type	Name	Volume	Issue	External Link	Title	Abstract	
:012/Apr	ARTICLE	Journal of virology	86	8	<u>PubMed</u>	The histone deacetylase inhibitor valproic acid lessens NK cell action against oncolytic virus-infected glioblastoma cells by inhibition of STATS/T-BET signaling and generation of gamma interferon.	Tumor virotherapy has been and continues to be used in clinical trials. One barrier to effective viral oncolysis, consisting of the interferon (IFN) response induced by viral infection, is inhibited (more)	
2012/Feb	ARTICLE	Nature cell biology	14	2	PubMed CrossRef	Reprogramming of the tumour microenvironment by stromal PTEN-regulated miR-320.	PTEN (Phosphatase and tensin homolog deleted on chromosome 10) expression in stromal fibroblasts suppresses epithelial mammary tumours, but the underlying molecular mechanisms remain unknown. Using (more)	
2012	ARTICLE	Advances in virology	2012		<u>PubMed</u>	Deciphering the Multifaceted Relationship between Oncolytic Viruses and Natural Killer Cells.	Despite active research in virotherapy, this apparently safe modality has not achieved widespread success. The immune response to viral infection appears to be an essential factor that determines (more)	
012/Feb	ARTICLE	Molecular therapy : the journal	20	2	PubMed	Antitumor efficacy of	Here, we describe the	



Submission System Tools that Help Editors Detect Fraud and Ethical Lapses



FAIR Data

- Findable
- Accessible
- Interoperable
- Reusable

Repositories – Data, Video, etc.

Repositories and data trusts, both commercial and institutional, are increasingly being used to store large data sets, image banks, video libraries and code snippets.

This is particularly important for initiatives in reproducibility, open science, and open data – FAIR data!

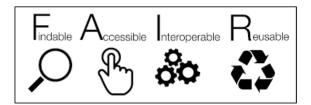








FAIR Data Project



The FAIR Data principles were developed by the Future of Research Communication and e-Scholarship organization (FORCE11), founded in 2011.

http://www.FORCE11.org http://www.FORCE11.org/fairprinciples

FAIR Data Project – Principles

• To be FINDABLE

- Data are assigned a globally unique & persistent identifier
- Data are described with rich metadata
- Data are registered/indexed in a searchable resource
- Metadata specify the data identifier

• To be ACCESSIBLE

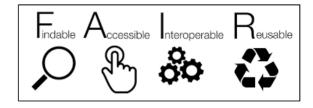
- Data are retrievable by their identifier using standard communications protocol
- The protocol is open, free & universally implementable
- Protocol allows for an authentication and authorization procedure, where necessary

• To be INTEROPERABLE

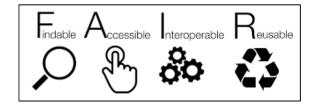
- Data use formal, accessible, shared & broadly applicable language for representation
- Data use vocabularies that follow FAIR principles
- Data include qualified references to other data

• To be REUSABLE

- Metadata have a plurality of accurate & relevant attributes
- Data are released with clear & accessible usage license
- Data are associated with their provenance
- Data meet domain-relevant community standards



FAIR Data Project – Problem



- Data sets are stored separately from the actual publications
- Data are stored and catalogued using varied protocols and methodologies
- Data are stored without proper or consistent metadata
- Data are stored by publishers and/or repositories without quality control or curation, sometimes as PDFs or other hard-to-use formats
- Data sets are often difficult to understand without guidance from the original researcher
- Data are stored in different types of repositories using different standards and procedures

References

- A Data Citation Roadmap for Scholarly Data Repositories; Martin Fenner, Mercè Crosas, Jeffrey Grethe, David Kennedy, Henning Hermjakob, Philippe Rocca-Serra, Gustavo Durand, Robin Berjon, Sebastian Karcher, Maryann Martone, Timothy Clark; bioRxiv 097196; doi: <u>https://doi.org/10.1101/097196</u>
- Smith AM, Katz DS, Niemeyer KE, FORCE11 Software Citation Working Group.; (2016) Software Citation Principles. PeerJ Computer Science 2:e86; DOI: 10.7717/peerj-cs.86
- Data Citation Synthesis Group: Joint Declaration of Data Citation Principles. Martone M. (ed.) San Diego CA: FORCE11; 2014 <u>https://doi.org/10.25490/a97f-egyk</u>
- A Data Citation Roadmap for Scientific Publishers; Helena Cousijn, Amye Kenall, Emma Ganley, Melissa Harrison, David Kernohan, Fiona Murphy, Patrick Polischuk, Maryann Martone, Timothy Clark; bioRxiv 100784; doi: https://doi.org/10.1101/100784
- Scholix: A Framework for Scholarly Link eXchange; http://www.scholix.org
- THOR Data Linking [Pending submission to pre-print]
- The Transparency and Openness Promotion (TOP) Guidelines; https://cos.io/our-services/top-guidelines/
- Data Citation Synthesis Group: Joint Declaration of Data Citation Principles. Martone M. (ed.) San Diego CA: FORCE11; 2014 <u>https://doi.org/10.25490/a97f-egyk</u>

Conclusion

- Detecting fraud and ethical lapses is a important responsibility that falls to everyone in the scholarly article lifecycle
- Editors and editorial staff are the first line of defense
- There are several resources available to educate and support editors and staff
- There are several tools available and many are integrated into commercial online systems like Editorial Manager
- Transparency, especially data transparency, may be the best way to combat fraud and ethical lapses



Questions? Thank you!

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