An Introduction to Scholarly Publishing

George Woodward, Publisher
g.woodward@elsevier.com
April 9, 2015
The scholarly publishing industry over time…

1580 - The Journal des Scavans

1665

1880

1989

1998-1999

2000

Today

1580

Google

BLOG

PubMed Central

Google Scholar

Creative Commons

Biomed Central

The Open Access Publisher

Wikipedia

Open Access

Facebook

LinkedIn

Twitter
The role of scholarly publications

Registration
- Timestamp to officially note who submitted scientific results first

Certification
- Perform peer review to ensure validity and integrity of submissions

Dissemination
- Provide a medium for discoveries and findings to be shared

Preservation
- Preserving the minutes and record of science for posterity
Academic publishing
Peer-reviewed journal growth 1990-2013

Source: Ulrichsweb Global Serials Directory
Scholarly publishing is not homogenous

Needs and practice vary greatly from one field to another

- Venues of publishing (journals, books, meetings, etc.)
- Levels of funding, and where the funding comes from
- Demographics (age, geographic location, work setting)
- “Normal” review and publication times
- Types of review (pre-publication vs. post-publication; single-blind, double-blind, or open)
- Citation rates
How to get published
Preparing your manuscript
Types of manuscripts

Full articles
• Substantial, complete and comprehensive pieces of research
  *Is my message sufficient for a full article?*

Letters or short communications
• Quick and early communications
  *Are my results so thrilling that they should be shown as soon as possible?*

Review papers
• Summaries of recent developments on a specific topic
• Often submitted by invitation

Your supervisor or colleagues are also good sources for advice on manuscript types.
Citations per article type

- Reviews
- Articles
- Short communications
- Expon. (Reviews)

Citations

Years after publication

© Reed Elsevier Group PLC
General structure of a research article

- Title
- Abstract
- Keywords
- Introduction
- Methods
- Results and Discussion
- Conclusion
- Acknowledgements
- References
- Supporting materials
The process of writing – building the article

- Title and abstract
- Conclusion
- Introduction
- Methods
- Results
- Discussion
- Figures/Tables (your data)
Effective manuscript titles

- Use the fewest possible words
- Adequately describe content
- Identify the main issue
- Do not use uncommon abbreviations
Keywords

- Are used by indexing and abstracting services
- Are the labels of the manuscript
- Use only established abbreviations (e.g. DNA)

<table>
<thead>
<tr>
<th>Article title</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>“An experimental study on evacuated tube solar collector using supercritical CO2”</td>
<td>Solar collector; supercritical CO2; solar energy; solar thermal utilization</td>
</tr>
</tbody>
</table>
Abstract

- This is the advertisement of your article
- Make it interesting and understandable
- Make it accurate and specific
- A clear abstract will strongly influence whether or not your work is considered
- Keep it as brief as possible
Acknowledgments

- Advisors
- Financial supporters and funders
- Proof readers and typists
- Suppliers who may have donated materials

Mention those who helped in the research, but are not authors.
References

- Do not use too many references
- Always ensure you have fully absorbed material you are referencing
- Avoid excessive self citations
- Avoid excessive citations of publications from the same institution or region
- If required, conform strictly to the style given in the instructions for authors
How to get published
Selecting a journal
Identifying an appropriate journal

- Check your manuscript’s references for potential journals
- Search in PubMed, Google Scholar, Scopus, etc., using relevant keywords
- Ask your supervisor or colleagues for recommendations
- Ask a librarian for resources that can help
- Use a free service like Elsevier’s Journal Finder tool (http://journalfinder.elsevier.com)
- Read the Aims & Scope of any prospective journal

Be realistic about your paper
The impact factor

- How many times the papers in a journal are cited on average
- Influenced by editorial policies of journals and turnover of research within a field

Calculation of the 2014 impact factor:

| 2012: B | # of articles published in 2012: Y |

Calculation: Cites to recent articles: A + B
Number of recent articles: X + Y
### Impact factor variations among fields

<table>
<thead>
<tr>
<th>Field</th>
<th>Highest-ranked Journal</th>
<th>Impact Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetics &amp; Heredity</td>
<td><em>Nature Reviews Genetics</em></td>
<td>39.794</td>
</tr>
<tr>
<td>Engineering, Mechanical</td>
<td><em>Progress in Energy and Combustion Science</em></td>
<td>16.909</td>
</tr>
<tr>
<td>Business</td>
<td><em>Academy of Management Review</em></td>
<td>7.817</td>
</tr>
<tr>
<td>Pediatrics</td>
<td><em>Journal of the American Academy of Child and Adolescent Psychiatry</em></td>
<td>6.354</td>
</tr>
<tr>
<td>Computer Science, Software Engineering</td>
<td><em>ACM Transactions on Graphics</em></td>
<td>3.725</td>
</tr>
<tr>
<td>Mathematics</td>
<td><em>Communications on Pure and Applied Mathematics</em></td>
<td>3.080</td>
</tr>
<tr>
<td>Nursing</td>
<td><em>Oncology Nursing Forum</em></td>
<td>2.830</td>
</tr>
<tr>
<td>History</td>
<td><em>American Historical Review</em></td>
<td>1.293</td>
</tr>
</tbody>
</table>
Read the instructions for authors

- Find them on the journal homepage
- Follow the Instructions for Authors in your manuscript
- Editors or reviewers may be negatively influenced by poorly prepared manuscripts
The Journal Publishing Cycle
Where did my paper go and will I ever see it again?
The journal publishing cycle

- Manuscript submission
- Peer review
- Edit and prepare
- Archive and promote use
- Publish and disseminate
- Production
Online submission and peer review systems

Online systems can handle hundreds of thousands of submissions and reviews per year.
**Peer review**

- Helps to determine the quality, validity, significance, and originality of research
- Helps to improve the quality of papers

**Variations:**
- Blind, double-blind and open
- Pre- vs. post-publication (or a combination)
- Collaborative peer review
- Portable peer review
Types of decisions

- **Rejection**
  - Learn from feedback provided and improve work for re-submission

- **Minor Revision**
  - Usually a good sign. Make the edits and resubmit quickly

- **Major Revision**
  - Answer comments, one by one, and explain changes made or not made
  - If you feel a remark is not justified or a request is unreasonable, say so, but substantiate your response
  - Submit a revised version highlighting where changes have been made
  - Acceptance is not guaranteed
The review and review processes

Submission

Technical check

Pass (forward to Editor)

Return to author

Reject w/o external review

Forward for peer review

Questions:
• What criteria do I need to pass to make it through the Technical Check? The Editorial review?
• How many reviewers are needed and how long do they have to complete their reviews?
The review and review processes, continued

Questions:
• Is rejection the final word?
• Is it possible to resubmit after a manuscript’s been rejected?
The journal publishing cycle

- Manuscript submission
- Peer review
- Edit and prepare
- Production
- Publish and disseminate
- Archive and promote use
Journal article production

- **Preprint**
  Author submits manuscript

- **Accepted manuscript**

- **Document proof**
  Copy editing, author proofing, preparation for publishing

- **Published journal article**
  Logo, pagination, branding

- **Electronic Warehouse**
  Published as print, HTML or PDF copy

© Reed Elsevier Group PLC
The journal publishing cycle

- Manuscript submission
- Peer review
- Edit and prepare
- Archive and promote use
- Publish and disseminate

© Reed Elsevier Group PLC
Methods of dissemination

Traditional print journals and Electronic journal platforms improve online dissemination and access
Other methods of dissemination

Portals for different audiences

Blogs

Mobile apps

Podcasts
The journal publishing cycle

- Manuscript submission
- Peer review
- Edit and prepare
- Publish and disseminate
- Archive and promote use

© Reed Elsevier Group PLC
Preservation and archiving

In addition to traditional print archives (in some cases), multiple distributed electronic archives help to ensure preservation of journal content for posterity.
Promoting research

- Conferences
- Newsletters
- Alerts
- Abstracting and indexing databases
An important disclaimer

While the following slides offer guidance and general principles of responsibilities that Authors should consider, different aspects of publishing ethics can vary greatly by discipline and journal.

It is recommended that all Authors consult their peers, advisors and journal Editors to learn the specific Author responsibilities in their discipline.
Authors may be asked to confirm…

- Originality of submitted work
- Data is real and not fabricated
- Obtaining of necessary permissions
- Obtaining of any necessary privacy waivers (subjects)
- Compliance with research standards
- Compliance with publisher and journal ethics and conflicts of interest policies
- Manuscript has been submitted to only one journal at a time
- Agreement of all co-authors
A researcher completes her paper. Along the way she consulted her advisor for guidance on the experiment, the data analysis and writing and revising the final article.

A professor in India assisted her in analyzing the data only. A lab assistant helped her in preparing the experimental design and maintaining and operating the equipment. Two fellow grad students read her paper and edited it, though they had no hand in the experiment.

Who is listed as an Author?

Who is listed first?
For example, the International Committee of Medical Journal Editors recommends that an author must meet the following 4 criteria:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

The correct answer depends on journal policy. Authorship policies vary across disciplines, cultures and journals.
Increased fasting serum glucose concentration is associated with adverse knee structural changes in adults with no knee symptoms and diabetes.


- Drs. Cicuttini, Wluka, Giles and English were involved in study design and inception.
- Dr. Davies-Tuck, Dr. Wang, Dr. Wluka, Dr. Berry, and Dr. Cicuttini were involved in subject recruitment, data collection, statistical analyses and interpretations.
- All authors were involved in manuscript preparation and revision.
General principles

- Order of authors varies by discipline and culture, but a common rule is that the **first author** is the person who conducts or supervises the data collection, analysis, presentation and interpretation of the results, and also puts together the paper for submission.

- The **corresponding author** can be the first author, or sometimes is a senior author from the institution.

- **Avoid ghost authorship**: excluding authors who participated in the work.

- **Avoid gift authorship**: including authors who did not contribute to the work.

- All authors should be aware that they are being included.
### Conflicts of Interest (Q)

Indicate if any of the following are examples of conflicts of interest:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>A University Researcher, who owns stock in a large oil company, conducts an experiment on the environmental effects of oil drilling.</td>
</tr>
<tr>
<td>2.</td>
<td>A University Researcher, who is developing and testing a new technology, is also a consultant for a financial services firm that weighs investments in new technologies.</td>
</tr>
<tr>
<td>3.</td>
<td>A Researcher submits an article to a journal for which the Editor-in-Chief is a Professor in the Researcher’s department.</td>
</tr>
<tr>
<td>4.</td>
<td>A Doctor who abides by traditional healing procedures writes a paper on emerging current medical technologies.</td>
</tr>
</tbody>
</table>
The proper way to handle potential conflicts of interest is through transparency and disclosure. At the journal level, this means disclosure of the potential conflict in your cover letter to the Journal Editor.

Conflicts of interest can take many forms:

- **Direct Financial** - employment, stock ownership, grants, patents
- **Indirect Financial** - honoraria, consultancies, mutual fund ownership, expert testimony
- **Career & Intellectual** - promotion, direct rival
- **Institutional**
- **Personal Belief**

These are all potential conflicts.
What is plagiarism?

Plagiarism is the appropriation of another person’s ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of others’ research proposals and manuscripts.

Federal Office of Science and Technology Policy, 1999

Presenting the data or interpretations of others without crediting them, and thereby gaining for yourself the rewards earned by others, is theft, and it eliminates the motivation of working scientists to generate new data and interpretations.

Professor Bruce Railsback, Department of Geology, University of Georgia
What is susceptible to plagiarism?

The list includes…

- Words (language)
- Ideas
- Findings
- Writings
- Graphic representations
- Computer programs
- Diagrams

Source: Higher Education Academy, UK
Plagiarism detection

- Huge database of 30+ million articles, from 50,000+ journals, from 400+ publishers
- Software alerts Editors to any similarities between the article and this huge database of published articles
- Manual review and intervention is still recommended
- Many journals now check every submitted article using CrossCheck

How big is the problem of plagiarism?

- Actual rates are low but in absolute numbers, still alarming
- Perception of editors, publishers & media is that rates are increasing but no robust evidence yet: even some to the contrary
Correct citation is key

Crediting the work of others (including your advisor’s or your own previous work) by citation is important for at least three reasons:

- To place your own work in context
- To acknowledge the findings of others on which you have built your research
- To maintain the credibility and accuracy of the scientific literature
Can you plagiarize your own work?

Text re-cycling/Self-plagiarism

A grey area, but best to err on the side of caution: always cite/quote even your own previous work

Editors may conclude that you intentionally exaggerated your output

The Methods section can be particularly challenging
Consequences (Q)

A researcher has plagiarized another author’s article
What are the potential consequences and what actions be taken?
Consequences (A)

Potential consequences can vary according to the severity of the misconduct and the standards set by the journal editors, institutions and funding bodies.

Possible actions include:

- Written letters of concern and reprimand
- Article retractions
- Some form of disciplinary action on the part of the researcher’s institute or funding body

All Elsevier journals are members of:
Author Rights Post-Publication
Copyright fundamentals

Authors (and in some cases their employers) have the right under national copyright laws (and international treaties) to control how their works are to be used and distributed to others.

The extent of copyright rights allows authors to permit: the copying, distribution, online access, translation and creation of other derivative works of research.
Copyright fundamentals

Copyright protects the way you express your thoughts and describe your research and conclusions in your writing. It does not protect the underlying facts or ideas of your work.
Copyright fundamentals

Publishers or other distributors need written agreements from authors to transfer copying and distribution rights.
Copyright fundamentals

Journal publishing agreements can take the form of a transfer of copyright or a publishing license.
Copyright fundamentals

Journal publishing agreements usually spell out not only rights granted to the publisher, but also the rights retained by the author.
Rights retained by authors (example)

**Teaching:** allowed to make copies of the article for use in classroom teaching

**Scholarly sharing:** copies of the article can be shared with research colleagues

**Further works:** article can be used in compilations, expanded to book-form, or used in thesis or dissertation

**Educational materials:** article can be included in the author’s institution or company e-course packs or company training

**Meetings/conferences:** article can be presented and copies can be made for attendees

**Patent and trademark rights:** for any invention disclosed or product identified
Other allowances and restrictions (I)

Elsevier’s posting allowances:

- Pre-print version of article to internet websites
- Revised personal version of text of final article to author’s personal or institutional website or server
- According to funding body agreements (e.g. Wellcome Trust, HHMI, NIH)
Other allowances and restrictions (II)

Elsevier’s commercial purpose prohibitions

- Posting by companies for customers to use
- Placing advertisements against the postings
- Charging fees for access to postings or delivering postings to third parties
- Any form of systematic distribution of the article.
Open Access Publishing
What is open access?

Free and permanent access to scholarly research combined with clear guidelines (user licenses) for users to re-use the content.

Gold open access

- After submission and peer review, often an article publishing charge (APC) is payable
- Upon publication everyone can immediately and permanently access the article online

Green open access

- After submission and peer review in a subscription journal, the article is published online
- Subscribers have immediate access and the article is made open access either through author self-archiving, publisher deposit or linking.
## What is the difference?

<table>
<thead>
<tr>
<th>Access</th>
<th>Gold Open Access</th>
<th>Green Open Access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▪ Free public access to the final published article</td>
<td>▪ Free public access to a version of your article</td>
</tr>
<tr>
<td></td>
<td>▪ Access is immediate and permanent</td>
<td>▪ Time delay may apply (embargo period)</td>
</tr>
<tr>
<td>Fee</td>
<td>▪ Open access fee may be paid by the author, or on their behalf (for example by a funding body or institution)</td>
<td>▪ No fee is payable by the author, as costs are covered by library subscriptions</td>
</tr>
<tr>
<td>Use</td>
<td>▪ Determined by your user licence</td>
<td>▪ Authors retain the right to use their articles for a wide range of purposes</td>
</tr>
<tr>
<td></td>
<td>▪ Open versions of your article should have a user license attached</td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td>▪ Publish in an open access journal</td>
<td>▪ Link to your article.</td>
</tr>
<tr>
<td></td>
<td>▪ Publish in a journal that supports open access (also known as a hybrid journal)</td>
<td>▪ Selected journals feature open archives</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Self-archive a version of your article</td>
</tr>
</tbody>
</table>
Copyright

- Publishers need publishing rights
- This is determined by a publishing agreement between the author and publisher
  - In subscription journals, it is normal to transfer copyright to the publisher
  - In open access, authors retain copyright and grant publishers a license to publish their article.

**Authors retain:**
- Copyright of the article
- Patent trademark and other intellectual property rights in the article

**Publisher gets:**
- An exclusive right to publish and distribute an article.
- The right to adapt the article for latest technology even after publication
### User Licenses

- Describes how readers can use your article, which may include commercial reuse
- Know your OA policies - some funders require specific licenses
- Be informed - you can’t necessarily change your mind

<table>
<thead>
<tr>
<th>User License</th>
<th>Read, print, download</th>
<th>Redistribute or republish the final article (e.g. display in a repository)</th>
<th>Text &amp; data mine</th>
<th>Translate the article</th>
<th>Reuse portions or extracts from the article in other works</th>
<th>‘Sell’ or re-use for “commercial purposes”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial license: CC-BY 4.0</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Non-commercial license: CC-BY-NC-ND 4.0</td>
<td>✓</td>
<td>✓</td>
<td>✓ for private use only and not for distribution</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
</tbody>
</table>
Tips for publishing gold open access

Find the right journal: Look for reputable journals

Collect key info: Check your funding body and institution’s policies

Make your article OA: Select a license and, if required, pay an OA fee

Publish OA: Share the final version of your article!
Research4Life collaboration

Provides free or low cost access to thousands of peer-reviewed journals to public institutions in over 100 developing countries

www.research4life.org
Getting Your Paper Noticed
You want to make sure your research gets the attention it deserves

- The volume of research articles is growing at an accelerated pace
- For most researchers, it’s a real challenge to keep up with the literature
- Your job: make sure your research doesn’t fall through the cracks!

7 hrs/week average time spent on literature
Preparing your article

Writing and publishing your article

- Spend time on abstract and conclusion & references
- Share research data and link to it in your article
- Use easy to understand charts and professional illustrations
- Use clear and correct manuscript language
- Choose the right journal
Preparing your article

Search Engine Optimization (SEO)
Preparing your article

Graphical Abstracts

Targeting the lymphatics using dendritic polymers (dendrimers), Lisa M. Kaminskasa, Christopher J.H. Porter, Advanced Drug Delivery Reviews, http://dx.doi.org/10.1016/j.addr.2011.05.016
Promoting your article

1. Conferences
   - Prepare to network
   - Also connect online
   - Online poster

2. Media relations
   - Research statement – Explain the significance of your research and key outcomes
   - Make use of your institution or funding body’s communication channels
Promoting your article

3. Social media
LinkedIn

- Share links to your articles, also in relevant groups
- Add images
- Add videos, AudioSlides
- Reposition the publication section
Promoting your article

Twitter
- Follow other researchers
- Post regularly and respond promptly
- Retweet
- Use images

Facebook
- Create a ‘fan’ page
- Invite fellow researchers
- Share images, videos, AudioSlides
- Link to your articles
- Discuss and ask for feedback

one mention of a scholarly article every seven seconds
Promoting your article

Social collaboration networks

Share your publications with your groups

Connect with research colleagues + join new communities
Tips for effective outreach

- Create an attention-grabbing headline
  - According to a 6/6/13 Slate article, 10% of web readers won’t scroll past the first couple of lines.
  - True for social media too: According to Dan Zarrella of HubSpot, 16.1% of link-containing tweets have more retweets than clicks

- Keep it short and relevant
  - According to that same Slate article, the average reader only reads 60% of an article.
  - Be sure to highlight the implications of your research, in simple language (8th-grade level)

- Make it easy to find out more
  - Include the journal citation
  - Who should journalists/readers contact with questions?
The risks of putting yourself out there

- Negative comments on news sites, blogs
  - Could be aimed at your research specifically or the topic in general
  - Many people react without reading the article

- Sensationalist news coverage
  - Remember that statistic about headlines?
  - Commonly ignored/misunderstood: Sample size, $p$-value, causality, other variables

- Use of your research by sites with an agenda
  - Such sites often cite research based on news coverage; if the coverage isn’t accurate, it’s not going to get any better.

Be Accurate and Provide Numbers
According to a 2014 BMJ article, 40% of 462 press releases included “exaggerated advice,” 33% included “exaggerated causal claims,” and 36% included “exaggerated inference to humans from animal research.” For news articles based on these releases: 58%, 81%, and 86%; for those based on other releases: 17%, 18%, and 10%.
Monitoring your article

Article-level metrics:
- Feedback on downloads, shares and citations
- Data about the geographic locations and research disciplines of your readers
- Search terms used to find your publications
- A comparison of the performance of your article with other people’s articles
Thank you
Useful links

• Elsevier.com/authors
• Elsevier.com/reviewers
• Elsevier.com/ethics
• Mendeley.com - free reference manager and academic social network
• Elsevier.com/webshop - Language Editing Services
• COPE - www.publicationethics.org.uk/about
• PERK - http://www.elsevier.com/editors