Publishing Your Research
“Writing a scientific paper and submitting to the right journal”

University of Turku, 22nd November 2017
Alexandrine Cheronet
Executive Editor
Life and Environmental Sciences
Agenda for today

• Publishing scientific articles
• Defining impact in academic publishing
• Publishing books
• Available tools for authors
Publishing scientific articles
Publishing scientific articles

- Why you should publish
- The status of scholarly publications today

Writing and publishing scientific articles

- Types of journals
- Before you begin
- What journal editors want
- How to choose the right journal
- How to structure your article
- Discoverability of your work: metadata
- Getting ready to submit
- Publishing ethics
Agenda - Publishing scientific articles (cont.)

Writing and publishing scientific articles (cont.)

- Submitting your article – what happens next
- Peer review
- Rejection
- Acceptance and publication of your article
- ORCID: Open Researcher and Contributor ID
Why you should publish?

• Publish or Perish:
  
  **Your research is NOT complete until it has been published**

• Present new and original results or methods

• Exchange ideas, communicate with peers -> Advance (not repeat) scientific knowledge and enhance scientific progress

• Credibility of results

• Grant writing, research funding

• Recognition and career advancement

• Personal prestige and satisfaction
Why you should publish – and not just blog about your work?

Publishing through reputed publishing houses ensures:

• Quality control (e.g. peer review)
• Professional publishing services (e.g. Abstracting and Indexing)
• Innovative publishing technology (e.g. POD/PTO, XML, ePub)
• Global marketing and discoverability (e.g. Search Engine Optimization, MARC records, CLOCSS etc.)
• Global visibility (e.g. cooperation with Amazon)
Why you should publish – in English?

- It is currently the *international language of science* (it has been e.g. French and German in the past)
- Foster (international) collaborations
- Scientists will want to hear from other scientists around the world
- Develop an *international* status / reputation
- Your number of publications in journals with an Impact Factor (i.e. English language journals) is linked to *career advancement and funding*
The status of scholarly publications today

- Trends in STM publishing: publication rates

Historical increase in research outputs

The status of scholarly publications today

- The number of article submissions is growing exponentially compared to number of new journals

- Consider - when you submit your own article - the growing pressure this puts on Editor-in-Chief, the Editorial Board and the Peer Reviewers of any given journal

Source: Daniel McGowan, Edanz, 2012
The status of scholarly publications today - in Life Sciences, Finland?

• **Authormapper** since 2007, displays 12,315 documents in Springerlink. **+330% in 10 years!**
Types of journals

- **Letters journal** - Rapid communication of interim work, peer-reviewed, a good way to get time sensitive, preliminary or ongoing research initially published and get feedback.

- **Traditional academic research journal** - The main venue for primary research, rigorously peer-reviewed.

- **Review journal** - Publishes overviews of research, perspective on the state of a field and/or where it is heading, usually peer-reviewed, may contain commissioned material.

- **Professional journal** - Mainly review and how-to articles, heavily edited, not necessarily peer-reviewed, but the audience may be who you want to reach with your research outcome: practitioners.
Types of articles


Perspective

Using energetic budgets to assess the effects of environmental stress on corals: are we measuring the right things?
M. P. Lesser
Before you begin

• **To Write = To Read**

• Know the status quo of your field of research

• Make sure you have access to the *most up-to-date* scientific literature, scientific communication is about advancing - not repeating - scientific knowledge (remember your library provides access to most of the scientific publications, e.g. on SpringerLink)

• Work on your writing style, develop concise writing skills as well as *specialized vocabulary*

• Refine your skills by reviewing papers of colleagues. This will help you form a strong framework for your own research writing

• Determine a feel of the (kind of) journal you wish to publish in
Before you begin (cont.)

Make sure you do good quality science:

• Have a hypothesis or research question
• Make sure that the science that supports your research is valid and supports your conclusions
• Use appropriate methods and controls
• Ensure sample sizes are large enough
• Use appropriate statistical tests
• Remove investigator/researcher/patient bias
• Comply with ethical requirements
• Citation of most appropriate research
• Data sharing policy? Research Data Support Helpdesk
What journal editors want?

- **Good quality science!** (use previous slide as your checklist!)
- Work which will stand up to peer review (quality / language)
- **Novel** to the scientific community, original research
- Research that is **interesting** to the journal’s readership (so also make sure to choose the right journal!)
- Active research areas (many citations)
- Clear concise writing

“Thank you for your article submission, the results are new and interesting. Unfortunately the new results are not interesting, and the interesting results are not new.”
How to choose the right journal?

• Choose the journal after completion of the research, but before writing the article so you can write it according to the audience.

• Consider your audience (aims and scope of the journal, regional / global visibility)

• Consider the costs (publishing in traditional - subscription based - journals is in most cases free to the author, however, in GOLD Open Access publishing there is an Article Processing Charge)

• Read the journal, the product page and the submission guidelines

• Talk to colleagues about their experiences with the journal

• Make use of the expertise of your library staff

https://journalsuggester.springer.com/
How to choose the right journal (cont.)?

• Check where collaborating / competing research groups and researchers publish their work

• Is an Impact Factor important to you? Or are you more concerned about usage / visibility?

• Follow the references in your own paper. Where were the original papers published and read?

• Check publisher sites, you can often find useful information in the ‘for authors’ section

• Avoid journals with no clear submission and reviewing process
What is **GOLD Open Access**?

- The article is universally available, FREE to the reader.

- **Copyright remains with the author.**

- Author grants publisher the license to publish the article and identifies the publisher as the original publisher.

- Author also grants any third party the right to use the article freely, as long as its integrity is maintained and its original authors, citation details and publisher are identified.

- **Creative Commons**: “The author or copyright owner irrevocably grants to any third party, in advance and in perpetuity, the right to use, reproduce or disseminate the research article in its entirety or in part.”

- **Article Processing Charge** (APC) is paid by:
  - paid by the author (via research grant or other funding)
  - paid by a member institution (currently more than 400 institutions, in 46 countries have a membership with BioMed Central / SpringerOpen. Check with your library!).
  - waived (economic hardship, invitation from EiC)
How to choose the right journal (cont.)?

Thinkchecksubmit.org to help researchers

Are you submitting your research to a trusted journal?
Is it the right journal for your work?

Use our check list to assess the journal

Only if you can answer ‘yes’ to the questions on our check list
How to choose the right journal - springer.com journal pages?
How to choose the right journal - springer.com journal pages (cont.)?

Stay up to date

Indexing Databases

Marine Biotechnology is the official journal of:

The European Society for Marine Biotechnology (http://www.esmb.org/)

The Japanese Society for Marine Biotechnology (http://marinebiotechnology.prom.wiley.com)

Related subjects » Animal Science - Ecology - Engineering - Microbiology

ABSTRACTED/INDEXED IN

Science Citation Index, Science Citation Index Expanded (SciSearch), Journal Citation Reports/Science Edition, PubMed/Medline, SCOPUS, INSPEC, EMBASE, Chemical Abstracts Service (CAS), Google Scholar, CSA, ProQuest, CAB International, Academic OneFile, AGRICOLA, ASFA, Biological Abstracts, BIOSIS, CAB Abstracts, CSA Environmental Sciences, Current Contents/ Agriculture, Biology & Environmental Sciences, EBSCO Discovery Service, EI-Compendex, Elsevier Biobase, EMBiology, Food Science and Technology Abstracts, Gale, Geobase, Global Health, Health Reference Center Academic, OCLC, Referativny Zhurnal (VINITI), SCImago, Summon by ProQuest, Zoological Record
How to choose the right journal - what our authors say?

How important are the following factors for you when deciding to submit a manuscript to a particular journal?

- The journal's reputation
- Quality of journal's papers
- Quality of peer review
- International scope
- Speed of publication
- Impact Factor
- Electronic submission system
- Coverage by major A&I
- Readership
- Advanced online publication
- Editors / editorial board
- Prior experience with this journal
- Design / layout
- "Author pays" open-access model

(N = 19,220 respondents, 5-point rating: 1=very important to 5=not important at all) Results 2009
How to structure your article?

• Follow the **author instructions** of the journal you chose to submit to

• Tell a story that is easy to understand:
  - Beginning (introduction)
  - Middle (main body: results)
  - End (conclusion)

• The order in which you actually write your paper should be:
  - Methods and Results
  - Introduction
  - Discussion and Conclusion
  - Abstract and Title
## How to structure your article (cont.)?

<table>
<thead>
<tr>
<th>Title</th>
<th>Read first and most. Keep it short and to the point. Must reflect the content of the paper.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors</td>
<td>Correct spelling, consistency in affiliation.</td>
</tr>
<tr>
<td>Abstract</td>
<td>100-300 word summary of objective and results. Includes key message of paper.</td>
</tr>
<tr>
<td>Keywords</td>
<td>Synonyms relevant as search terms e.g. in Google. Ideally not words from the title because title words are automatically keywords.</td>
</tr>
<tr>
<td>Introduction</td>
<td>Explain i) <strong>why</strong> the work was conducted ii) what methodology was employed iii) why you chose this particular methodology iv) How the methodology accomplished the hypothesis set out in your abstract.</td>
</tr>
<tr>
<td>Methodology</td>
<td>Written clearly and concisely so that someone can follow <strong>how</strong> you did your research and can reproduce it.</td>
</tr>
</tbody>
</table>
# How to structure your article (cont.)?

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analysis/Results</strong></td>
<td>Present the results clearly and carefully.</td>
</tr>
<tr>
<td><strong>Discussion</strong></td>
<td>Discuss the results here. If the results were not what you were expecting this is where you can provide insights or speculations as to what happened and/or what you could have done differently.</td>
</tr>
<tr>
<td><strong>Conclusions</strong></td>
<td>Write down your conclusions from the study.</td>
</tr>
<tr>
<td><strong>Acknowledgements</strong></td>
<td>Acknowledge the people and institutions who have made your research possible e.g. funding.</td>
</tr>
<tr>
<td><strong>References</strong></td>
<td>Properly cite your referenced material; use the style of the journal.</td>
</tr>
<tr>
<td><strong>Supplementary Material</strong></td>
<td>List any supplementary materials, appendices.</td>
</tr>
</tbody>
</table>
How to structure your article - Methodology?

- Follow **Author Instructions** on how to write up the methodology
- New methods should be described in such a way that they can be reproduced
- Existing methods can be referenced
- Statistical methodology
- Ethical declarations
- Use *past tense* for write up
How to structure your article – Analysis / Results?

• Accurately describe your findings
• Use *past tense* to describe your analysis / results
• Use *present tense* when referring to figures and tables
• Do not duplicate data (text, graph, table)
• Do not explain your results
How to structure your article – Acknowledgements?

- Give credit to those who have contributed
- Give credit to those that made the research possible
- Declare any conflicts of interest
How to structure your article – References?

• Format your references according to the author instructions

• Be precise in your references; references form the link between your paper and the scientific literature

• Tools available to manage your own scientific library
Discoverability of your work: metadata

• Your article needs to be found, read, used and cited!
• Metadata ensures your work appears with the proper audience through for example
  • Abstracting and Indexing Services
  • Search Engine Optimization (SEO)
Getting ready to submit

• Get the agreement from all co-authors on what is submitted and to which journal

• Prepare a **cover letter**

• Language editing

• Read the guidelines for the journal very carefully and make sure that you conform to the author instructions in terms of set up, reference style, etc.

• NEVER submit your paper to more than one journal at the same time, that would be violating publishing ethics
Getting ready to submit – Prepare a cover letter

• This is your chance to **sell your manuscript** to the Editor in Chief (EiC)
• Remember that the EiC receives an increasing amount of manuscripts, so be clear and concise
• Address the EiC personally in your letter
• Give the background to your research
• Explain the importance of your article in relation to the scope of the Journal
• Emphasize the **key take away points** - the **USPs**, the Unique Selling Points - from your article
• Recommend reviewers, it will be very much appreciated
• Exclude reviewers and include the reason (e.g. members from a competing research group)
Getting ready to submit – Language editing

- Professional editing services can help you to improve the text on grammar and to enhance the readability of your manuscript
- It is neither a requirement nor a guarantee for acceptance for publication
- Professional editing services will raise your chances of acceptance and ensures clear communication of your research
Getting ready to submit – Publishing ethics

- The work described has **not been published before**
- It is not under consideration anywhere else
- Publication has been **approved by co-authors** and responsible authorities
- **Permissions** have been obtained from copyright owners
- No data fabrication or falsification

CrossCheck powered by iThenticate is an initiative started by CrossRef to help its members actively engage in efforts to prevent scholarly and professional plagiarism
Getting ready to submit – Similarity check

MS1082938871131732

36%

SIMILARITY INDEX


   318 words – 4%

2. www.csse.monash.edu.au

   234 words – 3%

3. caesjournals.org

   156 words – 2%

4. Cui, D. "Image processing methods for quantitatively detecting soybean rust from multispectral images", Biosystems Engineering, 201011

   122 words – 2%
Publishing ethics - COPE: Committee on Publication Ethics

• COPE provides a forum for editors of academic journals to discuss issues relating to the integrity of the works in their journals

• COPE can act as the impartial mediator in disputes

• COPE is a charity registered in the UK, established in 1997

• Currently 5,200 members
Submitting your article – what happens next?

Online Submission Environment:
Editorial Manager / Manuscript Central

Author

Editor in Chief (EiC)

Editorial Board

Reviewers

Publishing Editor (Publisher)

Journal Editorial Office (Publisher)
Peer review - What is it?

• Peer review is a process of self-regulation. When you submit an article, other experts in the field evaluate your article, your research and methodology, to determine if your paper is suitable for publication.

• Peer review is employed to maintain a high quality standard of published papers and to provide credibility.
Peer review – How to deal with the feedback?

• Nearly every manuscript requires revisions, often two or three revisions.
• If you receive reviewer comments for re-submission, act on them.
• Consider peer review feedback as advice to help you improve your article, do NOT take offense.
• Minor revision does not guarantee acceptance after revision; address all comments carefully.

Very few manuscripts get accepted without the need for any revision.

(Daniel McGowan, Edanz, 2012)
Peer Review – Different types

• Peer review, depending on the discipline, can be:
  • Open (both authors and reviewers known)
  • Single blind (authors do not know who the reviewers are)
  • Double blind (both authors and reviewers anonymous)

• Peer review can be:
  • Done before (traditionally anonymously)
  • Open / Publically
  • After publication
Peer Review – Many comments

Reads:

• Drubin D (2011) Any jackass can trash a manuscript, but it takes good scholarship to create one (how MBoC promotes civil and constructive peer review). Molecular Biology of the Cell 22:525-527


**Rejection**

- Do not be disheartened if you receive a rejection: very often the article and the research are good, but it is not in the scope of the journal it was submitted to

<table>
<thead>
<tr>
<th>Science</th>
<th>Manuscript</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Novelty</td>
<td>• Formatting</td>
<td>• Scope</td>
</tr>
<tr>
<td>• Research question</td>
<td>• References</td>
<td>• Expected Impact</td>
</tr>
<tr>
<td>• Methodology</td>
<td>• Language</td>
<td>• Audience</td>
</tr>
<tr>
<td>• Statistics</td>
<td></td>
<td>• Too hypothetical</td>
</tr>
</tbody>
</table>
Acceptance and publication of your article

- Once the article has been accepted and is ready for publication, it will immediately be published online, this is called ‘Online First’

- The article receives a DOI number (Digital Object Identifier) and can now be read and cited, e.g.: DOI: 10.1007/s10681-012-0632-1

- This is the official publication of the article and cannot be changed afterwards

- Page numbers and an issue number are only assigned once it is included in the next available or appropriate issue

Article workflow

Manuscript accepted | Typesetting & Author Forms | Proof to author (and editor) | Proof correction | Published OnlineFirst

Issue workflow

Select available OnlineFirst articles | Compile issue | Publish issue online | Print and distribute issue
**ORCID: Open Researcher and Contributor ID**

- Go to [www.orcid.org](http://www.orcid.org) and register for your own Digital Identifier

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**DISTINGUISH YOURSELF IN THREE EASY STEPS**

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. [Find out more.](http://www.orcid.org)

1. **REGISTER**
   - Get your unique ORCID identifier [Register now!](http://www.orcid.org)
   - Registration takes 30 seconds.

2. **ADD YOUR INFO**
   - Enhance your ORCID record with your professional information and link to your other identifiers (such as Scopus or ResearcherID or LinkedIn).
How can you share published work?

• Check with your librarian if there is a policy
• Check with your publisher what is their policy

www.howcanishareit.com

http://www.springernature.com/gp/researchers/sharedit
Defining impact in academic publishing
Rankings in academic publishing

- Impact Factor by Clarivate Analytics
- The $h$-index
- Article Level Metrics and Social (media) impact
- Google Scholar citations databases
Impact Factor

- Measure of the average number of citations articles in a particular journal receive in a particular year

**Formula for the 2016 Impact Factor:**

\[
\frac{\text{Number of citations in 2016 to articles published in 2014 + 2015}}{\text{Total citable articles published in 2014 + 2015}}
\]

**Example:**

120 citations in 2016 (to articles published 2014 or 2015)

\[
\frac{120}{60} = 2
\]

IF = 2 each article published in the journal is cited twice on average
Impact Factor – Points to consider

• There is much debate over the Impact Factor (IF) in the scientific community, particularly with regard to the fairness of the system

• Compare the IF only with journals within the same discipline because the average IF is very different among different disciplines (see chart)

• E.g. In mathematics researchers will often cite older work but only citations in the two years after publication count toward the IF

![Average Impact Factor 2010](chart.png)

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Average Impact Factor 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economics</td>
<td>1</td>
</tr>
<tr>
<td>Computing, Cybernetics</td>
<td>1.5</td>
</tr>
<tr>
<td>Environmental Sciences</td>
<td>2</td>
</tr>
<tr>
<td>Physics, Multidisciplinary</td>
<td>2.5</td>
</tr>
<tr>
<td>Infectious diseases</td>
<td>3</td>
</tr>
<tr>
<td>Biochemical Methods</td>
<td>3.5</td>
</tr>
</tbody>
</table>
The \( h \)-index

- The \( h \)-index is intended to measure simultaneously the \textbf{quality} and \textbf{quantity} of scientific output.
- A scholar with an index of \( h \) has published \( h \) papers each of which has been cited in other papers at least \( h \) times.
- Evaluation of impact of the work of \textbf{individual} researcher, the \( h \)-index grows over time, depends on the academic age of the researcher.
- The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country, as well as a scholarly journal.
- A journal with an index of \( h \) has the largest number of \( h \) such that at least \( h \) articles in that publication were cited at least \( h \) times each.
- The \( h \)-index serves as an alternative to more traditional journal impact factor metrics in the evaluation of the impact of the work of a particular researcher.
Article Level Metrics

- Article-Level Metrics (ALMs, altmetrics, alternative metrics) are not just about citations and usage; the concept refers to a whole range of measures which might provide insight into ‘impact’ or ‘reach’
Google Scholar citations databases

- Visit [http://scholar.google.com/scholar/citations.html](http://scholar.google.com/scholar/citations.html) for more information
- Google **Author citations** are available since 2011
  - Authors should set up their profile at [http://scholar.google.com](http://scholar.google.com) and claim their articles
  - Provides citation information for authors and calculates the $h$-index
  - Most author analyses limited to authors with profiles
- Google Scholar **Journal citation** database with rankings available since May 2012
  - Journal ranking
  - No quality selection, only need 100 articles in previous five years
  - $h_5$-index for journals
Publishing books
Publishing Books

- Why we like to talk about books
- The importance of eBooks in scientific publishing
- Different types of books
- Types of books unique to Springer
- Publishing your book with Springer
Why we like to talk about books

• SpringerLink is home to one of the largest collections of scientific eBooks, with currently over 220,000 eBooks (Oct 2016)

• Book output growing rapidly every year

And what about our eBooks?

• Completely DRM (Digital Rights Management) free

• All books are published e-first and then printed on demand, this includes the eBooks from the Springer Book Archives (books from 1846-2004) which will become available in print again
Different types of books

**Monographs**: single author, high quality, niche subject, long shelf life

**Proceedings**: Collected papers from a conference, short shelf life

**Textbooks**: Written for a specific higher education course, high usage

**Reference Works**: Encyclopedia, Handbook or Atlas, comprehensive and complete, tertiary literature, often A-Z format

**Contributed volume**: Editor(s), multiple chapter authors, long shelf life
Types of books unique to Springer

- **SpringerBriefs** [www.springer.com/briefs]
  - Providing a format for publishing research, longer than an article, shorter than a book
  - Between 50 and 125 pages
  - Organized in focused subject series

- **SpringerReference** [www.springerreference.com]
  - Dynamic platform with updates, much like Wikipedia (but peer reviewed)
  - Final Reference Work on SpringerLink and available in print
Publishing your book with Springer

- Books are available as eBook and in print (Printed on Demand)
- Simple, easy procedures
- Proposals are externally peer-reviewed
- Springer carries out all the typesetting, formatting, etc.
- Springer editors guide you through the process
- Publishing with Springer doesn’t cost you anything
- Complementary copies for participating authors and editors
- 33% discount on all other Springer books
Publishing your book with Springer (cont.)

When you submit a book (proposal)

1. Submit proposal to Publishing Editor
2. Book proposal review
3. Invite authors, prepare manuscript
4. Submit manuscript
5. Editing, typesetting and formatting
6. Print proofs: minor changes and corrections
7. Book published!
Available tools for authors
To Write = To Read

English for Academic Research ... Adrian Wallwork
Alexandrine.Cheronet@springer.com