



## Publishing research results

Online workshop for researchers 28 January 2022



#### Goals



- 1. To discuss motivation for publishing research results
- 2. To learn about various ways of scientific publishing
- 3. To review various approaches to scientific journal selection

#### Please:

- Mute your microphone
- Switch-off your camera
- Use chat to post questions.



#### **Topics**

- 1. Why publish results
- 2. Types of articles
- 3. Types of access
- 4. Preprints
- 5. Selection of journal or platform for publishing
- 6. Exercise: Find the best journal for your paper





#### Why publish results?

- 1. Adding to the body of knowledge
- 2. Becoming a recognized expert in a scientific field
- 3. Contributing to career advancement
- 4. Helping to develop or improve an existing policy
- 5. Getting inner satisfaction



## 1. Adding to the body of knowledge (BoK)

- Body of knowledge: "A set of knowledge within a profession or subject area which is generally agreed as both essential and generally known" (Oliver 2012)
- New findings will enhance the information about a specified topic in a BoK
  - In accordance with findings of some researchers and opposed to findings of others
- May help in resolving some open issues
- Enlargement and systematization of knowledge may lead to new theories



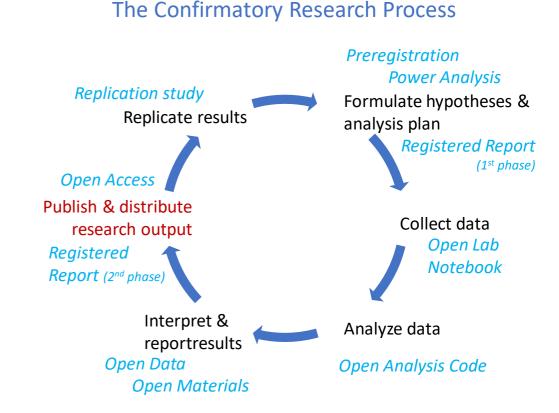
Body of Knowledge", 2010 from Jaume Plensa, steel sculpture, at "Westend Campus" of Goethe University Frankfurt



"Structured knowledge that is used by members of a discipline to guide their practice or work" (BOK-def)

#### 2. Becoming a recognized expert in a scientific field

- By publishing a lot of (good) research in a scientific field, one may
  - gain credibility
  - become a recognized expert in the field
  - become sought-after by various organizations as a project partner, consultant, speaker etc.
- The research must be of a good quality
  - rigorous approach, especially in methodology
  - if methodology is wrong or replication is not possible, the published research is false or unreliable





#### 3. Contributing to career advancement

- The number of publications, prestige of journals and/or number of citations are often used by universities to measure the scientific competence of a researcher (journal impact factors, journal indexing, h-index of a researcher...)
- Some or all of the above may be necessary conditions for promotion
- "Publish or perish"





#### 4. Helping to develop or improve an existing policy

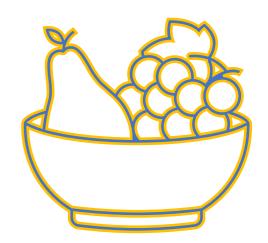
- "Science-based policy making"
  - may save effort, time and money
  - one of the reasons why some countries are developed (funds are allocated to contributing researchers)
  - may be used to bring local laws based on research, not on simply copying international ones
- An example: vaccination policy based on scientific findings. Follow-up studies are desired
- Research funding is an investment, researchers' contribution to policy is expected in return





#### 5. Getting inner satisfaction

- Managing to publish in a reputable scientific journal
   ⇒ self-confidence in own research capabilities
- Finally reaping the fruits of hard labor and sleepless nights
- Inner satisfaction



#### 6. Other benefits

- Getting feedback
- Reaching wide international audience
- •



## Types of research publications

- Journal articles
- Books
- Monographs
- Chapters in monographs
- A paper in conference proceedings

• ...





## Common types of journal articles (1)

## 1. Original research article (Original Article, Research Article, Research, Article)

- Most common
- Full reports of research results
- Hypothesis, background study, methods, results, interpretation, discussion of potential implications

#### 2. Review Articles

- Comprehensive overview of research on a topic, state of the scientific field and future directions
- Often written by leading scientists in the field
- Often extensively read and cited (useful as the introduction to a field)

- Primary literature: requires original work
- Secondary literature:
   based on work of others





## Common types of journal articles (2)

#### 3. Short reports (Letters, Brief communications)

- Concise reports on original research that editors find interesting and stimulating
- Quick reports on time sensitive results (in rapid changing or extremely competitive disciplines)

#### 4. Methodologies (Methods)

- Used to introduce (advantages of) a new experimental method, procedure or test
- New or revised methods





## Common types of journal articles (3)

#### 5. Case studies (case reports)

- Original report on specific cases or interesting phenomena
- To make other researchers aware that those exist
- Often used in medicine (clinical case study) short, on real patients, usually significant contributions
- Require practical experience

#### 6. Clinical trials

- Controlled studies methodology, implementation, and results, usually large patient groups
- Practical experience, high ethical standards





#### Other types of articles



- Book reviews (review & opinion on recent scholarly books)
- Commentaries and letters to editors (on issues of public and political interest)
- A paper in conference proceedings (around a common thread)
- Posters and slides (within the life sciences and medicine)
- **Registered reports** (a study protocol (reviewed 1<sup>st</sup>) + original research article)
- Data notes (describe research data stored in a repository)
- Datasets (share datasets that accompany the research)
- Software tool articles (the rationale for development and details of the code)



#### Types of access to scientific literature

 Paywall (Closed Access) – a person or institution must pay a subscription price to have access to research publications (journals, articles, books...)



 Open Access (OA) - research publications can be accessed online, free of charge by any user, with no technical obstacles (like mandatory registration or login to specific platforms)





## Journals and copyright



- Any creative work is automatically copyrighted, i.e. under copyright terms "all rights reserved" copyright holder reserves, or holds for its own use, all the rights provided by copyright law
- Many journals (mostly behind paywall) still require for publication that authors transfer full copyright
  - Authors must ask for permission to reuse their own work except for granted uses
  - Granted uses include teaching purposes, sharing with colleagues, and especially how researchers can self-archive their papers in repositories



#### Open licensing



- By specifying an open license to a scientific work copyright terms are changed to "some rights reserved", i.e. author can choose the conditions under which the work can be accessed, re-used and modified
- The most used licenses for scientific content are <u>Creative Commons</u> licenses
- Depending on CC <u>license type</u>:
  - one is always obliged to attribute the authors (give credit, indicate changes)
  - material may be free or not free to adapt (remix, transform, and build upon the material)
  - Commercial use may be allowed or not allowed
- There are also <u>public domain related CC licenses</u> "all rights granted"



#### Types of Open Access (1)

- Gold Open Access (Open Access publishing) publication is made available by the publisher immediately upon publication
  - Commonly with **APCs article processing charges** (paid by user or institution)
- Green Open Access (self-archiving) publication is made freely and openly accessible by the author, or a representative, in an online repository
  - Usually not allowed to publish the final manuscript, but only pre-prints (pre-refereeing) or post-prints (final draft post-refereeing)
  - OA often granted after embargo period (0 60 months, often 24 or 12)
  - Registry of Open Access Repositories







#### Types of Open Access (2)

- Hybrid Open Access (optional open access, etc.). In addition to cost of downloading articles, additional payment for OA to the article
  - Institution may pay twice: for the subscription to the entire journal and for publishing one or more articles
- **Platinum Open Access**. Does not charge either a subscription or a fee from the author. Expenses are covered by volunteer work, donations, subsidies, grants, etc.
- "Bronze" open access Free to read, but without a clearly identifiable license. No extended reuse rights beyond reading









#### Open Access journals



- According to the Directory of Open Access Journals (DOAJ), in June 2021 there are 16,477 open access journals.
- An open access journal must provide free access to its contents, but it also must license them to allow reusability.
- Most successful journals and the ones that got the highest impact include APCs.
- Majority of journals registered in DOAJ do not charge any fee for publication.
- Open access publishing is obligatory in Horizon Europe projects!





#### **Preprints**

- Preprints are documents that have not been peer reviewed but are considered as a complete scientific publication in a first stage.
- Publication through institutional repositories and preprint servers.
- Some of the preprints servers include open peer review services and the availability to post new versions of the paper once reviewed by peers (see Wellcome Trust or the <u>Bill and Melinda Gates Foundation</u>).
- Some publishers distinguish between **preprints** and **author-submitted articles** and do not consider the preprints as a form of prior publication.



# How to determine self-archiving policy of a journal (possibilities for green OA)?







- An online service that aggregates and presents publisher and journal open access policies.
- Used by researchers, repository staff and research support teams, to help in understanding complex publisher and journal open access policies.
- 2. Use information available at the journal or publisher website
- Some researchers are still reluctant to deposit other versions than the final published version. It is important to inform them about the copyright implications when they sign a transfer document.



#### Decide on the type of publication

- Journal papers are most valued publications
  - Journals should be peer reviewed, produced by academic press, written for scholars, cite authors who are experts in their fields (Belcher, 2019)
  - Types of articles other than "original paper" are mostly for experienced researches
  - Beware of 'predatory journals'
- Books or monographs are good to establish one's place in the scientific field
- Chapters in monographs or books with conference papers may be a waste of effort (often not well reviewed, not well appreciated by readers)





#### Preferred journal types

According to (Belcher, 2019), from least to most prestigious

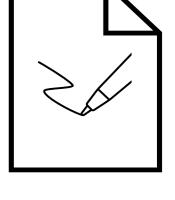
- Regional journals. May be easier to publish in. A good starting point for novice researchers.
- **Newer journals**. 3-7 years old. Have less submissions, may be actively searching for papers and be more willing to help young researchers improve the article.
- Interdisciplinary journals. May readily accept what others would not but may be considered as less relevant when evaluated by single-discipline-oriented hiring committees.
- \* **Field journals**. "Scholarly, peer-reviewed periodicals that publish work in a field within a discipline". A clear majority of academic journals. Prestigious, but not out of reach.
- \* **Themed or special issues** (additional or regular issues on specific topics). Guest editors. Very good opportunities, much less competitive as much less papers are sent. Google "Calls for Papers" or "CFP" and a key term from your research, limit results to past year.
- **Disciplinary journals.** Publishing work in a specific discipline (only around 20 disciplines). Many submissions, difficult to publish in. Not for novice authors.



## A good article as a prerequisite for publishing

- Good research is a prerequisite for writing a good article.
- A solidly written article is a prerequisite for publishing.
- Spend some time learning to write a good article. There are many sources:
  - **Books** like: Writing your journal article in twelve weeks: A guide to academic publishing success or Guidelines on writing a first quantitative academic article
  - Lots of free guidelines on the Web, like <u>How to Write a Research</u>
     <u>Paper | A Beginner's Guide</u>, <u>How to Write Good Academic</u>

     <u>Papers: Easy Guide for Beginners</u> etc.
  - Special postgraduate classes, etc.





#### Before journal selection

- Have research results ready.
- Name your priorities. The purpose of the publication is to...?
  - Get a prerequisite for promotion (certain journal metrics or reputation)
  - Improve scientific reputation
  - Maximize the visibility of your work
  - Summarize the research you have finished
  - Quickly get you ideas published etc.





#### Paper rejection and journal selection

- Rejections of the paper is not the end of the world, but it costs time. Sending
  to multiple journals at the same time is unethical, authors can be banned
- A misconception: papers get rejected because there are too many papers and not enough journals
- (Usually) true: (well written) papers get rejected because they are sent to the wrong journal
  - The journal does not publish articles of such type (summary of various editors' replies)
- There are great many journals out there (number rapidly increasing), many editors are looking for papers to fill the available quotas!
  - Leading journals have high rejection rates (around 95%), but many others don't. In fact, many journals have 50 70% rejection rate a good chance for publishing a solid article.



#### Where to search for a journal?

- **Ask your mentor or colleagues**. Write emails. Beware, they may publish rarely, in same journals, different articles...
- Subscription-based lists of journals if your institution has access
- Free online lists of academic journals (e.g. Wikipedia Lists)
- Index and research databases (by keywords in journal titles)
- Field- or discipline-specific databases
- Your own citations and their bibliography (where they were published?)
- Journal publisher's websites (less journals, clearer results)
- Journal finders (based on title / abstract / text of potential paper)





#### Conducting journal research

- 1. Don't just select one journal, make a list of potential journals as backups and future goals
- 2. Evaluate the journals in the list, according to type, topic match, metrics, visibility, time to publication, rejection rate, APCs, etc.
- 3. Select the preferred journal for the next publication and a couple of backups
- When searching online for journal, use many different keywords:
  - 1. Start searching on the narrow topic
  - 2. Expand the search to general subject
  - 3. Further expand the search targeting to **theoretical approach**, **methodology**, or **discipline** (reveals more suitable journals)





#### Journal ranking

- Journal ranking is widely used in academic circles in the evaluation of an academic journal's impact and quality.
- Journal rankings are intended to
  - reflect the place of a journal within its field,
  - the relative difficulty of being published in that journal, and
  - the prestige associated with it.
- They have been introduced as official research evaluation tools in several countries.



#### Journal-level metrics (1)

• <u>Impact factor</u> (IF) and <u>CiteScore</u> – reflect the average number of citations to articles published in a journal.

For example, *Nature* had an impact factor of 41.577 in 2017

$$IF_{2017} = \frac{Citations_{2017}}{Publications_{2016} + Publications_{2015}} = \frac{74090}{880 + 902} = 41.577.$$

For example, *Nature* had a CiteScore 2019[2] of 51.0

$$CS_{2019} = \frac{Citations_{2019} + Citations_{2018} + Citations_{2017} + Citations_{2016}}{Publications_{2019} + Publications_{2018} + Publications_{2017} + Publications_{2016}} = \frac{243894}{4786} = 51.0$$



## Journal-level metrics (2)

- SCImago Journal Rank (SJR) accounts for both the number of citations received by a journal and the importance or prestige of the journals where such citations come from.
- Source Normalized Impact per Paper (SNIP) contextual citation impact by weighting citations based on the total number of citations in a subject field.
  - The impact of a single citation is given higher value in subject areas where citations are less likely, and vice versa.
  - Corrects for differences in citation practices between scientific fields, thereby allowing for more accurate between-field comparisons of citation impact.

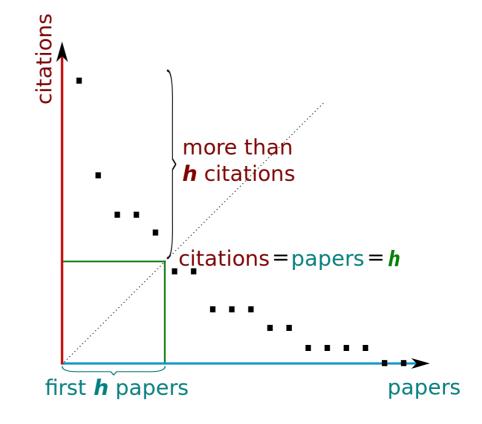


#### Journal-level metrics (3)

- <u>h-index</u> usually used as a measure of scientific productivity and impact of an individual scientist but can also be used to rank journals.
  - Defined as the maximum value
     of h such that the given
     author/journal has published at
     least h papers that have each been
     cited at least h times.

Example (5 papers: A-E, f(X) – number of citations):

```
f(A)=10, f(B)=8, f(C)=5, f(D)=4, f(E)=3 \rightarrow h-index=4 f(A)=25, f(B)=8, f(C)=5, f(D)=3, f(E)=3 \rightarrow h-index=3
```





#### Metrics and open science

- Research publications are often the primary measure of a researcher's work
- General assessment is often based on metrics such as h-index of a researcher or metrics of the journals that researchers' papers were published in.
- Metrics like JIF, h-index or similar, do not measure or reward open research practices, are not as open and transparent as the community would like.
- The <u>San Francisco Declaration on Research Assessment (DORA)</u> recommends considering all types of output and using various forms of metrics and narrative assessment in parallel (see <u>Altmetrics</u>).
- Almetrics: Citation counting is complemented by other online measures of research impact, including bookmarks, links, blog posts, tweets, likes, shares, press coverage...

# Subscription-based bibliographic databases (citation indexes)



- Contain bibliographic data on peer-reviewed literature, incudes: author, institution, article and journal titles, year, language, article type, abstract, + citations (references)
- Journal Citation Reports
  - Search and ranks journals listed in Web of Science (WoS) database according to citation data Journal Impact Factor (JIF or IF) and Eigenfactor Score.
- Scopus search and sources
  - **Search for publications** based on title, author, keywords, ISSN, then show journals containing the publications. **Search for journals** by subject area, title, publisher, or ISSN.
- Scopus Journal Analyzer
  - Compares up to 10 journal titles. Gives a range of metrics (SJR, SNIP), whether they're well cited or publish many review articles.
- Ulrichsweb.com
  - A database of more than 300,000 publications. Keyword based search. Filters to restrict results to peer-reviewed publications indexed in subject databases.



#### Free bibliographic databases (1)

- Google Scholar
  - freely accessible web search for publications
  - includes most peer-reviewed online academic journals publications, preprints, abstracts, technical reports, even court opinions and patents.
  - Does not feature journal data by clicking on journal title
  - Journal rank: <u>Google Scholar Metrics</u> (h-5 index)
  - Does not filter out predatory journals
  - Search algorithm favors most cited papers, so they may get even more cited
  - "Scholar Citations profiles" are public author profiles that are editable by authors themselves
  - Displays the individual's total citation count, <u>h-index</u>, and <u>i10-index</u>, less restrictively than WoS or Scopus
  - Use with care



#### Nikola Korunovic /

Associate Professor, <u>University of Niš</u>, Faculty of Mechanical Engineer laboratory

Verified email at masfak.ni.ac.rs - Homepage

Bioengineering Tire design FEA Mechanical Engineering



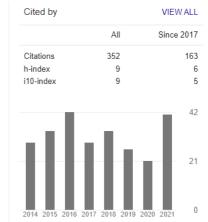
 Finite element analysis of a tire steady rolling on the drum and comparison with experiment

N Korunović, M Trajanović, M Stojković, D Mišić, J Milovanović Strojniški vestnik-Journal of Mechanical Engineering 57 (12), 888-897

#### FEA of tyres subjected to static loading

N Korunović, M Trajanović, M Stojković Journal of Serbian Society for Computational Mechanics 1 (1), 87-98





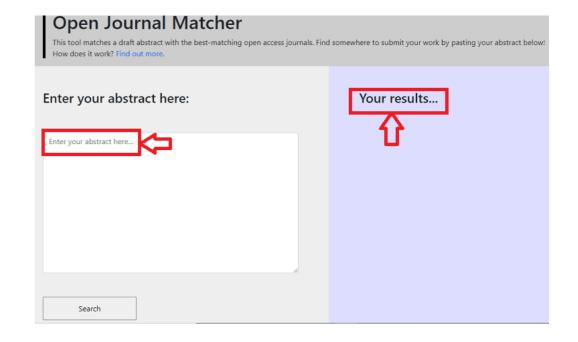
## Free bibliographic databases (2)

- <u>Semantic Scholar</u> an artificial-intelligence backed search engine for academic publications. Includes all fields of science. Search for publications based on title, author, keywords, ISSN, then show journals containing the publications.
- <u>Ingenta connect</u> a searchable database that includes millions of citations from over 30,000 publications, including over 6,000 on-line journals.
- <u>CiteSeerX</u> digital library and search engine focused primarily on computer and information science. Features list of citations and active bibliography.
- <u>PubMed</u>, covers life sciences and biomedical topics, based on MEDLINE database
- Astrophysics Data System covers astronomy and physics, etc.



#### Journal finders

- Enable pasting manuscript title/abstract/text to find matching journals.
- Journal list is displayed, where:
  - Journals are ranked according to selected metrics or specific score value
  - Depending on finder, various metrics may be displayed as well as APCs, time to first decision etc.
  - Filtering options may be available to rank or exclude journals below a threshold considering metrics, time to decision etc.





#### Subscription-based journal finders

#### Manuscript Matcher

 Connects the title, abstract and references of candidate manuscript with <u>Web of Science</u> content and matches it with relevant publications. Works from website or EndNote software.

#### Edanz Journal Selector

5 searches only available with free account

#### × **Manuscript Matcher** Manuscript Matcher helps you find the most related journals for your manuscript. It works best when your title has at least 10 words and your abstract has at least 100 words. Using this information, it will pull the most relevant keywords for matching. Please enter your manuscript information below. Title The manuscript title or relevant part(s) of the title. This works best with at least 10 words. Abstract The manuscript abstract or relevant part(s) of the abstract. This works best with at least 100 words.

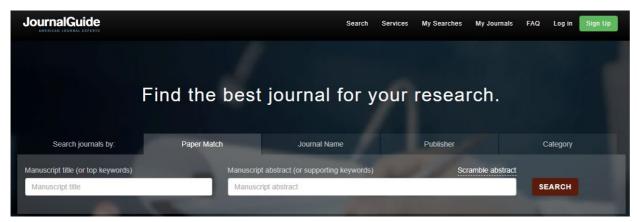
**Find Journals** 

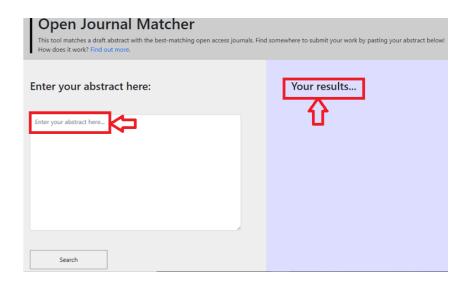
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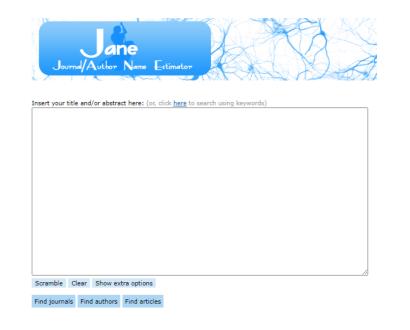


#### Free journal finders

- <u>Journal guide</u> also has features for searching, sorting, filtering, and comparing scholarly papers.
   Ranks journals according to SNIP.
- Open Journal Matcher Open Access journals finder
- <u>JANE Journal/Author Name Estimator</u> Medicine related journals finder, based on MEDLINE database



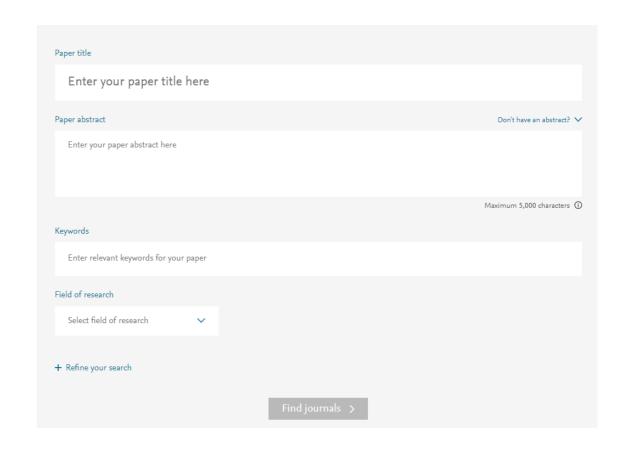






## Journal finders by various publishers

- Springer Journal Suggester
  - Springer/BioMed Central Journals.
- Elsevier Journal Finder
  - Elsevier journal. Can filter by open access.
- Wiley Journal Finder
  - · Wiley journals.
- Talor and Francis Journal Suggester
  - Taylor and Francis journals.
- IEEE Publication Recommender
  - Finds recommended IEEE publications based on keywords from your paper.





#### Evaluating potential journals

- After the search for journals is done, there should be approx. 3-10 adequate journals on your list.
- Evaluation is important to closely check the candidates and rank them appropriately.
- A number of **evaluation check lists** are available on Internet, like:
  - <u>Belcher Journal Evaluation Form</u> (detailed explanation of included questions is given in the book "<u>Writing your journal article in twelve</u> weeks: A guide to academic publishing success".
  - Journal Evaluation Tool LMU Digital Commons includes two components, the rubric and the scoring sheet, do assess if the journal is likely a good, fair, or poor choice for publication















#### Some questions to evaluate a journal (Belcher form)

- Is the journal peer reviewed?
- Does the journal have a solid reputation?
- Does the journal have solid metrics?
- Does the journal have a tolerable rejection rate?
- Does the journal have a substantial publisher?
- Is the journal carefully produced?

- Does the journal require authors to pay a fee?
- Are the journal's authors varied?
- Does the journal publish many articles per year?
- Is the journal available online?
- Does it take a long time to get published in the journal?
- Who reads the journal?



#### Evaluating article-journal match (Belcher form)

- Does the journal have a relevant themed or special issue?
- Does the journal publish articles on topics like mine?
- Does the journal have article length limits
   I can meet?
- Do I know any of the journal's editors?
- Does the style of my article match the journal's style?





## Journal checking guidelines (some of many)







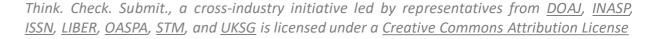








- Do you or your colleagues know the journal?
- Can you easily identify and contact the publisher?
- Is the journal clear about the type of <u>peer review</u> it uses?
- Are articles indexed and/or archived in dedicated services?
- Is it clear what fees will be charged?
- Are guidelines provided for authors on the publisher website?
- Is the publisher a member of a recognized industry initiative?
- How to Assess a Journal graphical guide by CARL (Canadian Association of Research Libraries)
- Steps to Finding the Right Journal evaluation criteria by UCSF (University of California San Francisco) Library



## Should you select journals that are high or low on your list?

- It is shown by some authors that articles in journals with high rejection rates (leading journals) are not better reviewed, copyedited, written, or cited than in others (Belcher, 2019)
- Finding and reading relevant articles in non-elite journals is as easy as in elite journals
- Publishing in a middle-ranked journal, as long as it's peer reviewed, is a good choice





## Submitting to the journal(s) from the list

- Adjust the paper to journal rules and requirements
- Submit the paper to the first journal from the list.
- If rejected, submit to the next...
- Get published!





## Exercise: Find the best journal for your paper

- Have the title and abstract of your future or already existing paper at hand.
- Select a journal in which you would like to publish your paper.
  - Use a subscription-based journal finder if you have access to one:
    - Ulrichsweb.com
    - Manuscript Matcher (if your institution has access to Web of Science),
  - Or use free journal finders like:
    - Journal guide
    - Open Journal Matcher
    - JANE Journal/Author Name Estimator



Note:

#### Literature

- Belcher, W. L. (2019). Writing your journal article in twelve weeks: A guide to academic publishing success. University of Chicago Press.
- Patrick A. Regoniel (simplyeducate.me) Why Publish Research Findings?
- UCSF Library Help Center <u>Steps to Finding the Right Journal</u>
- Brock University Library <u>Scholarly Publishing Guide</u>
- The Open Science Training Handbook: <a href="https://open-science-training-handbook.gitbook.io/book/">https://open-science-training-handbook.gitbook.io/book/</a>

Other used literature is referenced throughout the text.





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