NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

National Centre
for Information Support of Research,
Development, and Innovation

My First Scientific Article

Tips on writing an article for early career researchers

Barbora Šátková, Alena Dvořáková

5 November 2025

The project National Centre for Information Support of Research, Development and Innovation with the identification code MS2101 is implemented with the support of the Ministry of Education, Youth and Sports.

Learning objectives

- Understand the role and importance of scientific communication in academia,
- Introduce the publishing and peer review process and its significance in maintaining academic standards,
- Understand my place in the publication process – where I am in the process, what is the expected/required timeline, what needs to be done.

Barbora Šátková
- Ing. Analytical Chemistry, UCT Prague
- NTK Information Specialist

Alena Dvořáková
- Ing. Biochemistry, UCT Prague
- Ph.D. English Literature, Charles University
- Experience in academic teaching and publishing in Czech and English
- NTK Information Specialist

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

What is your academic affiliation?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

What level of study are you at?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

What is your research field?

Have you ever published a scientific article?

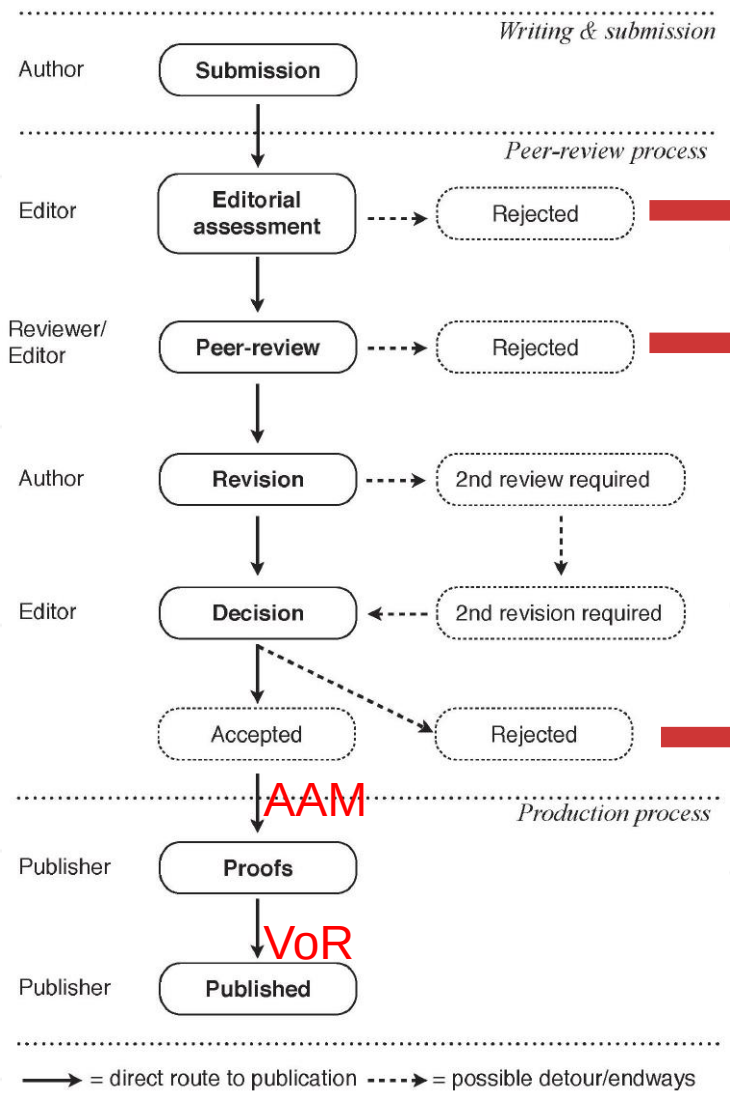
Part I: Publication process

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Learning objectives:

- Get familiar with the publication process for a scientific article.
- Learn how to choose a journal.
- Learn how to navigate the peer review proces.

Publication process overview

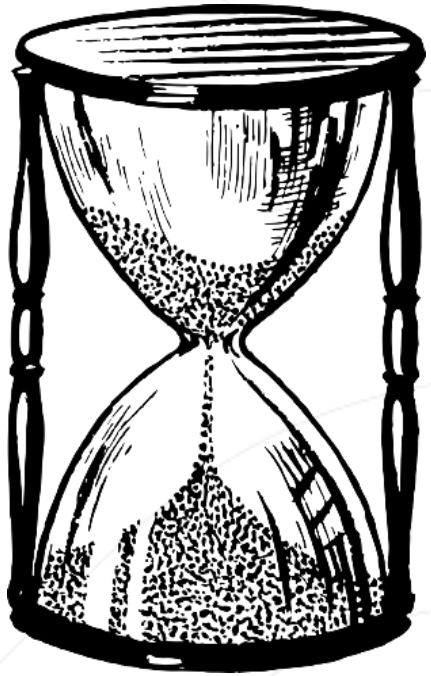


"First decision"

"First decision after reviews"

"Final decision"

It takes time!



AAM = Author Accepted Manuscript
VoR = Version of Record

Tress, G., Tress, B., & Saunders, D. A. (2014). How to write a paper for successful publication in an international peer-reviewed journal. *Pacific Conservation Biology, 20*(1), 17-24. DOI: 10.1071/PC140017

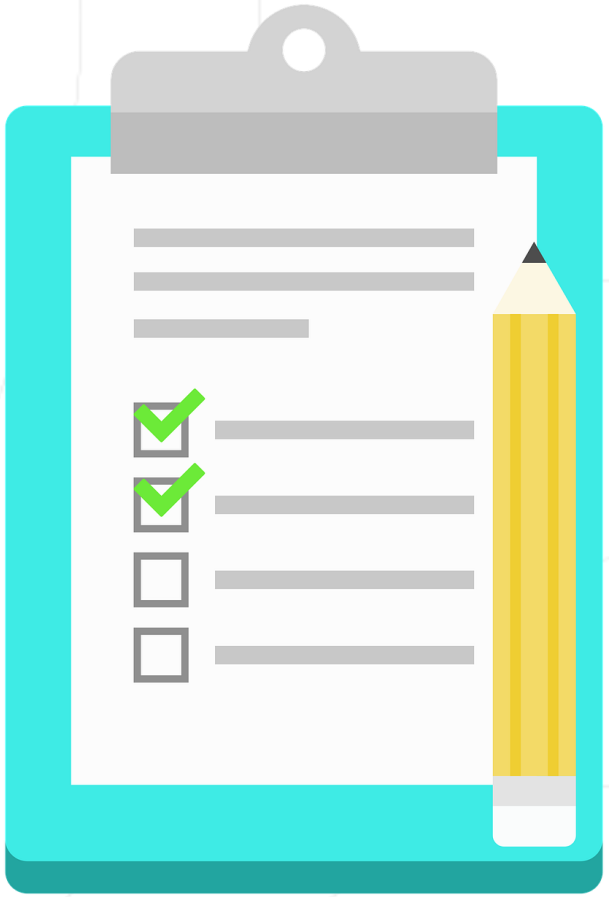
See also: https://guides.lib.berkeley.edu/publish/editorial

Before you submit:

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

1. Figure out the requirements for your study/work.
2. Decide on the type of manuscript you're writing.
3. Choose a journal carefully: **you can only submit to ONE journal at a time.**
4. Write the manuscript – see Part II of this webinar. ☺
5. Format the manuscript, add a cover letter, and so on.

+ Getting an ORCID iD, ResearchGate profile, and so on



Requirements for your PhD or career

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Type of manuscript; language (do you need to publish in English?)
- Indexing – WoS, Scopus
- Impact factor, quartile,

  Open Access

Developmental and Cell Biology Study Programme, Faculty of Science, Charles University

Publication prerequisites:

The applicant must be an author/ co-author of at least two papers accepted in peer-reviewed journals indexed in the Web of Science (preferably with IF above the research field median) and should be a first author on at least one publication (shared first authorship should be communicated *ex ante* with the Board). In exceptional and warranted cases, the Board may decide otherwise; an example of such situation may be one excellent first author publication.

Faculty of Finance and Accounting, Prague University of Economics and Business

Primary obligations are set by the Decree of the Dean 1/2014 and the ISP:

1. Students are obliged to regularly publish in professional periodicals in which contributions are subject to a review procedure (hereinafter referred to as "professional peer-reviewedpapers"). The minimum number of professional peer-reviewedpapers for students is as follows:
2. a) onepaperby the date of submission of the application for the state doctoral exam,
3. b) in total twopapersfrom the beginning of the doctoral study to the date of submission of the application for the defence of the dissertation. The student must publish at least one paper in a journal registered with the Web of Science or Scopus database.

Choosing a journal

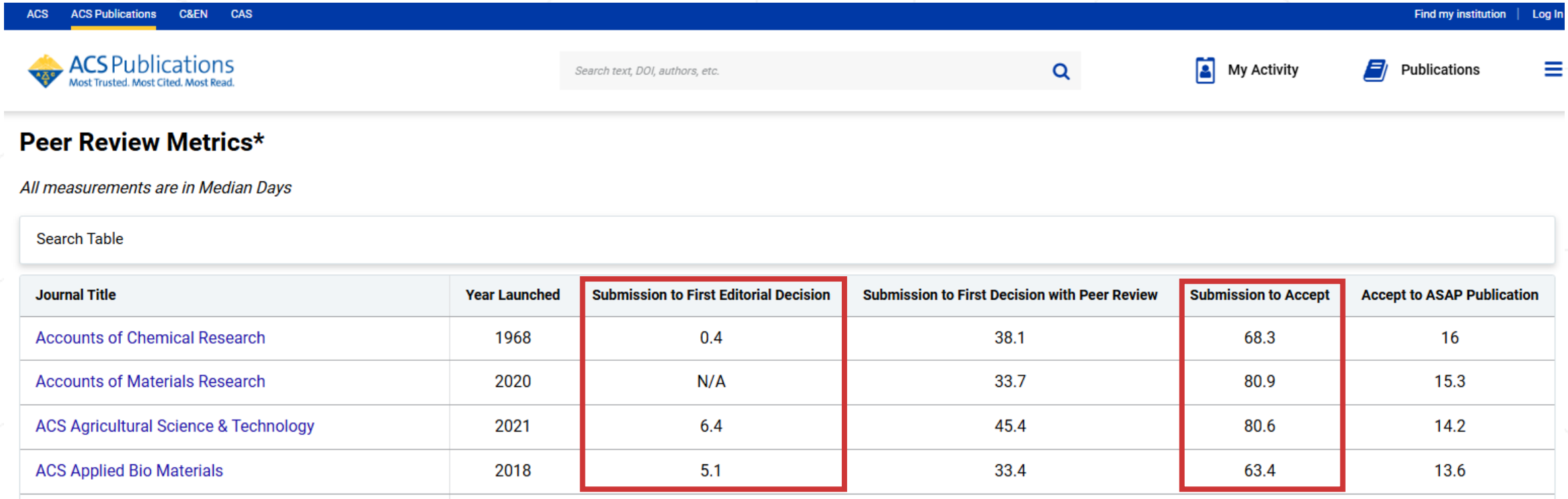
NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Where do your supervisor or your peers publish?
- Which journals are you reading or citing in your work?
- Check databases such as Web of Science, Journal Citation Reports, Scopus.
- Sample recommender services from individual publishers:
  - Elsevier Journal Finder
  - WoS Manuscript Matcher
  - Taylor & Francis Journal Suggester
  - IEEE Publication Recommender

Choosing a journal

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Publication timeline



Peer Review Metrics*

All measurements are in Median Days

Search Table

Journal Title	Year Launched	Submission to First Editorial Decision	Submission to First Decision with Peer Review	Submission to Accept	Accept to ASAP Publication
Accounts of Chemical Research	1968	0.4	38.1	68.3	16
Accounts of Materials Research	2020	N/A	33.7	80.9	15.3
ACS Agricultural Science & Technology	2021	6.4	45.4	80.6	14.2
ACS Applied Bio Materials	2018	5.1	33.4	63.4	13.6

Note on timelines

- Each article is different: nobody can tell you in advance how long the publication process will take.
- Check the instructions for authors, FAQs, and articles already published.

ARTICLE

Open Access Journal

Beyond Digital Literacy: Exploring Factors Affecting Digital Performance of University Staff

Carmen Koch and Fiona Fehlmann

IAM Institute of Applied Media Studies, Zurich University of Applied Sciences (ZHAW), Switzerland

Correspondence: Carmen Koch (carmen.koch@zhaw.ch)

Submitted: 8 July 2024 Accepted: 13 September 2024 Published: 23 January 2024

Source: Media and Communication (ISSN: 2183-2439)

Tips and tricks

- Follow instructions – correcting mistakes takes time.
- Meet deadlines (or submit revisions early, if you can ☺).
- Check your spam folders from time to time: automatic emails from online submission systems are often marked as spam.

Choosing a journal: OA and funding

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Does the journal require an **article processing charge (APC)**? Do you have funding?
- **Open Access**:
  - **Green**: author puts the published article or pre-print in an openly accessible repository (institutional repository, arXiv – check the publisher's rules)
  - **Gold**: authors pay an APC, then an article is made freely available by the publisher (optional in some journals = hybrid journals)
  - **Diamond**: article is made freely available, authors do not have to pay APC (usually funded by external sources)

Watch out for: multiple affiliations and multiple funders (compatibility of requirements?)

Learn more: Open Access Publishing course from Open Plato
See also: ACS Publications: A Step-by-Step Guide to OA

Choosing a journal

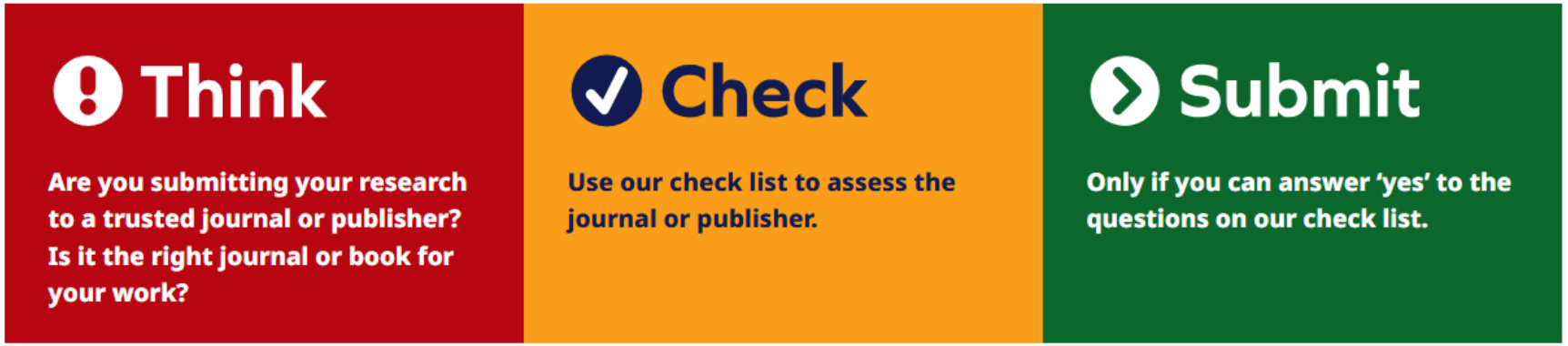
NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Tokens
  - An option for funding OA articles
  - See whether there are available tokens for your institution and selected journal on the Czech eLib website
  - For information about eligibility, contact your institution's OA administrator
- Selected contacts:
  - CTU: david.skorusa@cvut.cz
  - CUNI: openaccess@cuni.cz
  - CZU: openaccess@lib.czu.cz
  - UCT Prague: openaccess@vscht.cz

Choosing a journal: note on predatory journals

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Predatory journal = journal focused more on financial gain than on quality scientific communication:
  - Do not trust emails promising fast publication (within the matter of days).
  - Check the quality of published content.
  - Find resources online (check out our NTK guide):



Source: https://thinkchecksubmit.org/

Example of predatory journal emails

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Journal of Veterinary Physiology and Pathology

ISSN: 2821-0328

DOI Prefix: 10.58803

Publish in less than one month

Dear Respected Colleague,

Hope this mail finds you well.

Journal of Veterinary Physiology and Pathology (JVPP) is a peer-reviewed journal dedicated to publishing and disseminating high-quality scientific research work in all fields of veterinary.

The scope of the journal contains *animal reproduction and production, parasitology, endocrinology, microbiology, immunology, pathology, physiology, pharmacology, epidemiology, molecular biology, immunogenetics, surgery, virology, physiology, vaccination, gynecology, exotic animals, animal diseases, radiology, ophthalmology, dermatology, oncology, chronic disease, non-surgical pathology issues of small to large animals, cardiology and oncology, anatomy, hematology,* and *zoonoses diseases.*

Knowing that your research interest falls under the scope of our Journal, we would like to welcome you as a prospective researcher to submit any of your recent work for publication in the upcoming issue release.

Reasons to publish with JVPP:

- Easy submission
- Fast peer-review process (within 7 days)
- Free and open-access publication
- Expert review from JVPP's team of editors, who strive to give authors fair decisions and advice
- Assign DOI number
- Indexing and Archiving in EBSCO, GoogleScholar, Crossref, AGRIS, WorldCat, Dimensions, OpenAIRE, Portico and PKP (LOCKSS), J-Gate, and Copernicus
- Increased visibility of the research work by uploading the published article on 6 web pages related to the journal.
- Providing timely updates of article status.

For further information about JVPP, please visit the following

link: https://jvpp.rovedar.com/index.php/JVPP/About-Journal

We admire you for joining our editorial team via the following

link: https://jvpp.rovedar.com/index.php/JVPP/EditorialBoard

We would appreciate it if you could share this information with your colleagues and associates.

Submit Now

Join JVPP Team

We are always striving to add diversity to our editorial board and operations staff. Please send us a copy of your resume (CV), your ORCID and briefly discuss any leadership positions and other experiences you have had that are relevant to applied animal and feed researches or publications. If you would like to represent the JVPP at your university, join our volunteer staff today! You can also, register as a member of JVPP for subsequent contacts by email and or invitation for an honorary reviewing articles.

With kind regards
Prof. Kai Huang
Editor-in-chief
Journal of Veterinary Physiology and Pathology

Target: researcher with a background in animal behavior, zoology, and (marginally) in psychology

Dear Dr. Vobrubova Barbora,

I hope this note finds you well.

I am writing to invite you to present your latest research at the **4th International Conference on Pediatrics and Neonatal Care** (In-person & Online) in **Paris, France,** on **July 23-24, 2025**. Your research is impressive, and we have reviewed your work titled **"On the ground and in the heights: Does exploratory activity differ in commensal and non-commensal spiny mice?"** which we believe would greatly interest our audience.

You will have **25 minutes** for your invited talk, including a **5-minute Q&A** session. Please submit your abstract to confirm your participation. You will be awarded CPD points and your abstract will be published with ISBN & DOI in the conference proceedings.

For additional information, please visit: https://unitedresearchforum.com/pediatrics-conference-2025/

Looking forward to your positive reply!

Best regards,
Ryan Cooper

Read instructions for authors!

plos.org Create account Sign in

PLOS One

Publish About Browse Search

advanced search

SUBMISSIONS

- Getting Started
- Submission Guidelines
- Figures
- Tables
- Supporting Information
- LaTeX
- What We Publish
- Preprints
- Revising Your Manuscript
- Submit Now
- Calls for Papers

POLICIES

- Best Practices in Research Reporting
- Human Subjects Research
- Animal Research
- Competing Interests
- Disclosure of Funding Sources
- Licenses and Copyright
- Data Availability
- Complementary Research
- Materials, Software and Code Sharing
- Ethical Publishing Practice
- Authorship
- Corrections, Expressions of Concern, and Retractions

MANUSCRIPT REVIEW AND PUBLICATION

- Criteria for Publication
- Editorial and Peer Review Process
- Editor Center
- Resources for Editors
- Guidelines for Reviewers
- Accepted Manuscripts
- Comments

Bioorganic Chemistry

Supports open access

Articles & Issues About Publish Order journal ↗ Search in this journal

Submit your article ↗

Guide for authors

Sage Journals

Search this journal Enter search terms...

Advanced search

I have access via: NTK Access/Profile Cart

Browse by discipline Information for

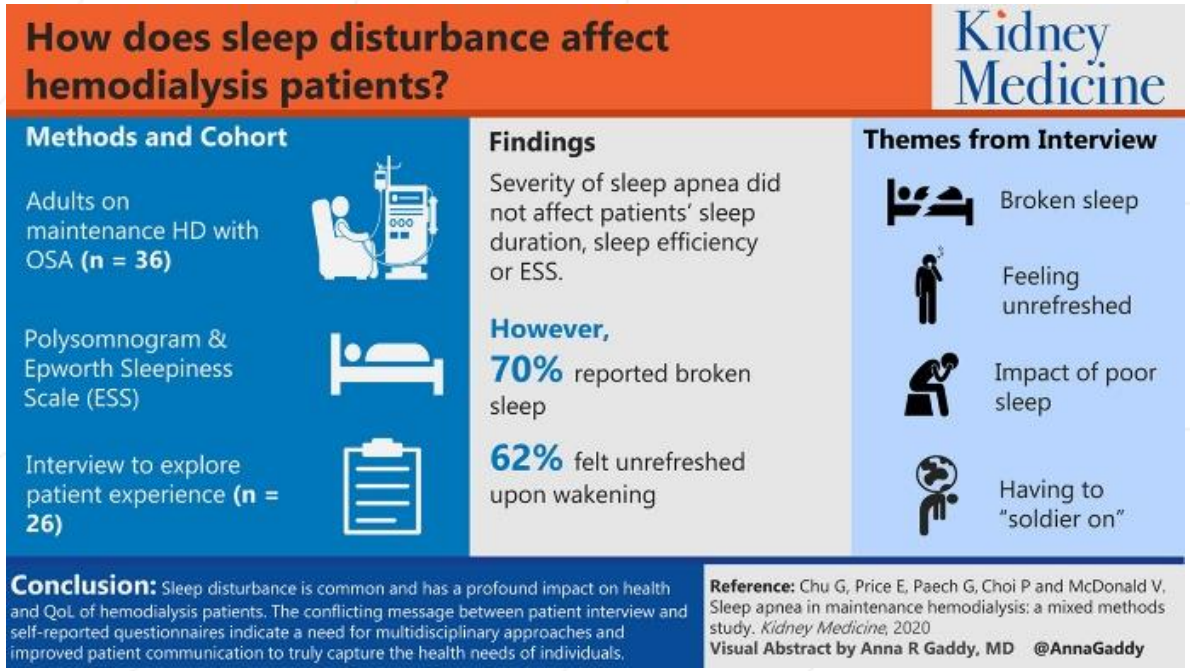
Theory, Culture & Society

Impact Factor: 2.7 / 5-Year Impact Factor: 3.3 Journal Homepage Submission Guidelines

Preparing for submission

- Formatting
- Ethical notes, data availability, statements of AI use
- Cover letter
- Reviewer suggestions
- Highlights, graphical abstract
  - Requirements for some journals, help with gaining visibility for the article

Formal shortcomings can be corrected – but it can cost you time



See also: https://guides.lib.berkeley.edu/publish/submitting

Step 1: Editorial assessment

Peer review

Rejection (desk rejection)

- Not within the scope of the journal
- Lacking novelty, contribution or potential impact
- Scientific flaws – e.g., wrong methods, conclusions that cannot be drawn from the presented results
- Poor quality of writing – an unclear message, numerous grammatical errors
- Ignoring the formal requirements – length, formatting, and so on
- Plagiarism (and self-plagiarism)

Journal of International Business Studies – roughly 65% of papers rejected by editor

Some political science journals – up to 76% of papers rejected by editor, average desk-rejection rate is about 40%

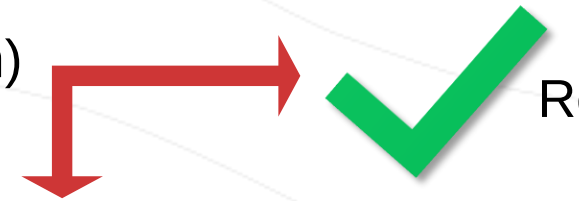
Beugelsdijk, S., & Bird, A. (2024). How to avoid a desk reject: Do's and don'ts. Journal of International Business Studies. DOI: 10.1057/s41267-024-00712-8

Garand, J. C., & Harman, M. (2021). Journal Desk-Rejection Practices in Political Science: Bringing Data to Bear on What Journals Do. PS: Political Science & Politics, 54(4), 676–681. https://doi.org/10.1017/S1049096521000573

Step 2: Peer review

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- At least 2 peer reviewers
- Recommendations:
  - Accept – without change
  - Minor revision – some non-essential issues need fixing
  - Major revision – the manuscript should not be published until these issues are fixed
  - Reject – the manuscript should not be published at all
- Editor makes a decision based on the reviews (or asks another reviewer for a third opinion)



Revisions

Rejection

Step 3: Revisions

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Be polite, grateful, and professional, even when you think a reviewer is wrong.
  - Criticism can be painful but it is not the end of the world (nor your career).
- Never assume a reviewer is “stupid” or a non-expert.
  - Consider language barriers or cultural differences, reviewer can have a slightly different specialization with different views, and so on.
- Respond to ALL queries and ALL author instructions.
  - If you did not comply with the reviewer’s request, you need to explain why.
  - Copy the comment to the response letter + add your response.

Cushman, M. How I respond to peer reviewer comments. *Res Pract Thromb Haemost*. 2023 Mar 15;7(2):100120. doi: 10.1016/j.rpth.2023.100120. PMID: 37063759; PMCID: PMC10099302.

Step 3: Revisions

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Provide thorough responses – do not leave any stone unturned.
  - If you are too brief in your responses, the reviewers might ask for further clarification – which means another rounds of reviews.
  - “We corrected the mistake” is an acceptable response when the reviewer points out typos, not when they ask for clarification of missing methodology.

Line 61-62: One physiological correlate wouldn't validate this view in my opinion, thus rather say 'strengthen'

Accepted

Cushman, M. How I respond to peer reviewer comments. *Res Pract Thromb Haemost*. 2023 Mar 15;7(2):100120. doi: 10.1016/j.rpth.2023.100120. PMID: 37063759; PMCID: PMC10099302.

Step 3: Revisions

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Make it easy for the reviewer and editor to understand your response.
  - Use line numbers, page numbers, tracking/highlighting changes, copy (small) parts of the revised text into the response letter.
  - Do not be too verbose – nobody wants to read 50 pages of responses.

On which grounds the subspecies affiliation in the M. m. domesticus from Syria was made?

Accepted. See line 161: The affiliation of captured individuals to *M. m. musculus* population was genetically assessed using SINE B2 elements for determining the subspecies type.

160 outbred captive generation of the wild-caught individuals. The affiliation of captured

161 individuals to *M. m. musculus* population was genetically assessed using SINE B2 elements

162 for determinig the subspecies type ~~by~~ (Kubešová, 2008).

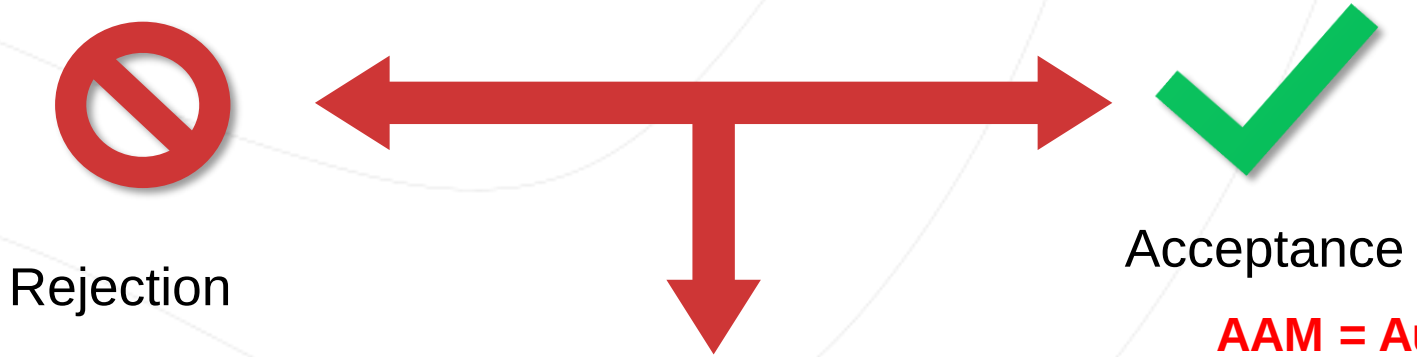
- If you do not understand a review comment, it is okay to admit it.
  - But it is a good idea to show that you tried.

Cushman, M. How I respond to peer reviewer comments. *Res Pract Thromb Haemost*. 2023 Mar 15;7(2):100120. doi: 10.1016/j.rpth.2023.100120. PMID: 37063759; PMCID: PMC10099302.

Step 4: Rinse and repeat

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Editor might ask for a second round of reviews.
  - Reviewers who have asked for major revisions usually want a second look at the revised manuscript.
- Editor makes a decision based on the authors' responses and/or the second reviews:



AAM = Author Accepted Manuscript

Step 5: Accepted article (AAM)

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Proofreading of the final preview of the article:
  - Small changes: formatting, missing details, e.g., in references
  - Usually with a **short deadline** (e.g., 48 hours)
- Are there any article processing charges?
  - Make sure the invoice is processed swiftly – the article cannot be published without payment!
- If you are in a hurry (your thesis defense is drawing near), you can ask for an acceptance letter – a written confirmation that your manuscript will be published.
- Online first/Early access publication:

Published article = Version of Record (VoR)

Step 6: You survived – what now?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

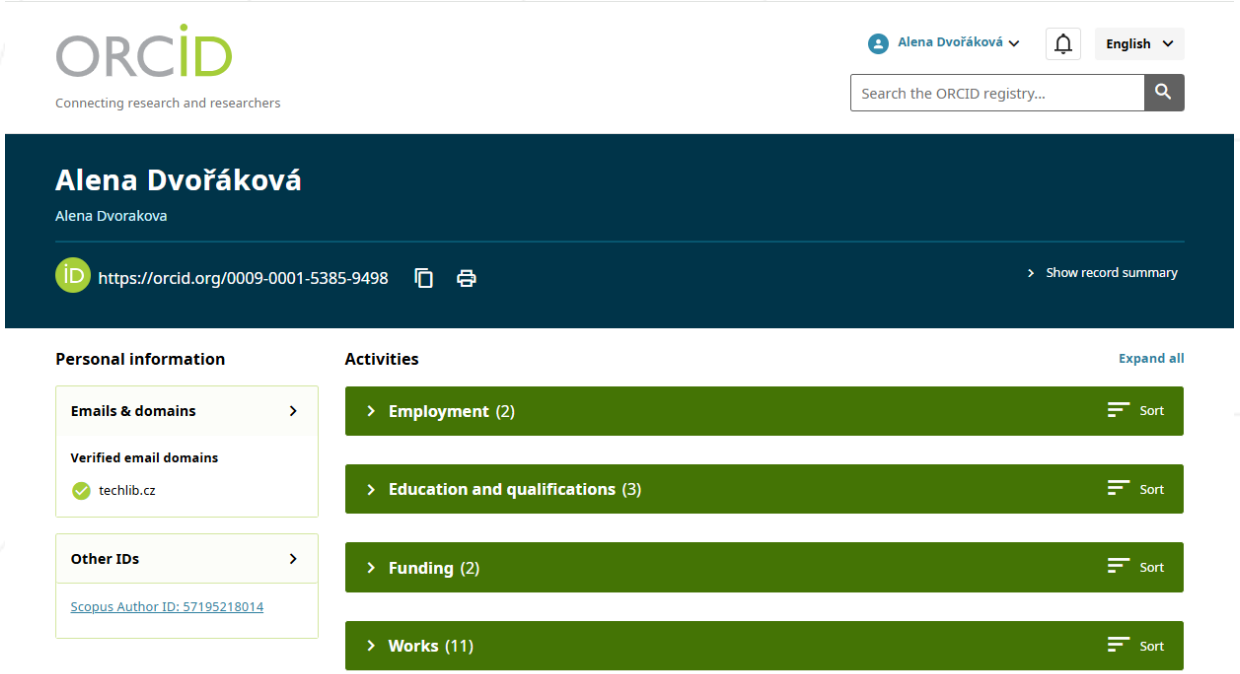
- Make sure you have a copy safely stored or archived: see the NTK guide on Research Data Management; or the Open Policy finder (formerly Sherpa services) .
- Put it on your CV/bibliography/Google Scholar profile.
- Look out for reviews of it, responses to it, and similar.

And start again…
…but it does get easier

Presence in the social sphere

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- ORCID iD
  - Unique identifier (16 numbers)
  - Serves as an online CV, tracks publications even if you change your name
  - **Obligatory for some journals**
- ResearchGate
  - Social network for scientists
  - Pre-prints, finding other experts in your field, promotion of your work
- Google Scholar profile



See also: https://guides.lib.berkeley.edu/publish/impact

More tips

- https://www.science.org/content/article/tips-publishing-scientific-journals
- https://www.aje.com/arc/12-tips-accelerating-manuscript-publication/

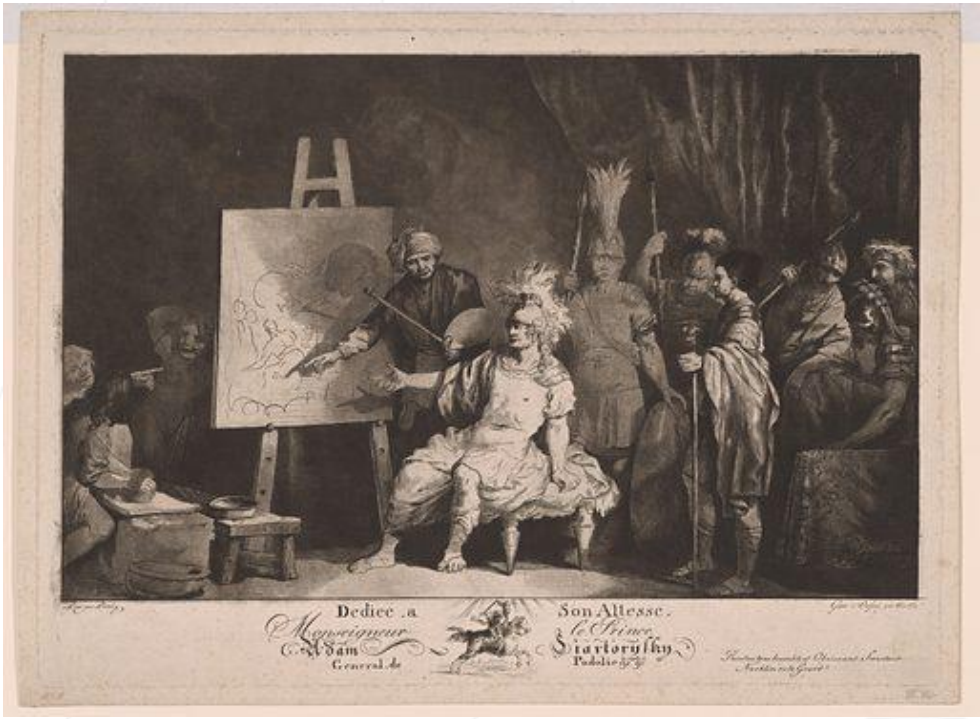
Part II: Writing to publish

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Learning objectives:

- How to tailor your writing
- How to start… and manage time
- What to check before submitting

Nulla dies sine linea.



C. W. E. Dietrich: *Alexander the Great in the studio of Apelles* (1774). (National Museum in Krakow, CC0 1.0)

Alexander the Great (helmet): “That can’t be right?”
Apelles (turban): “But I saw it in *Nature*!”

Serious about writing?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

❑Find a scientific/academic writing course at your institution, e.g.:

UCT: Effective Scientific Writing (Craig Riddell)
CTU: Scientific Writing in English (Prof. Milan Jirásek)
CAW: Writing for Publication and other courses

❑Arrange a consultation at your own university library or writing center:
e.g., Academic writing support @ FF UK (Arts Faculty, Charles University).

❑Get **discipline**-specific, **topic**-specific, or **document**-specific advice.

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

What it comes down to:

- ❑TYPE & TEMPLATE
- ❑TIMELINE
- ❑TEAMWORK

Tip:

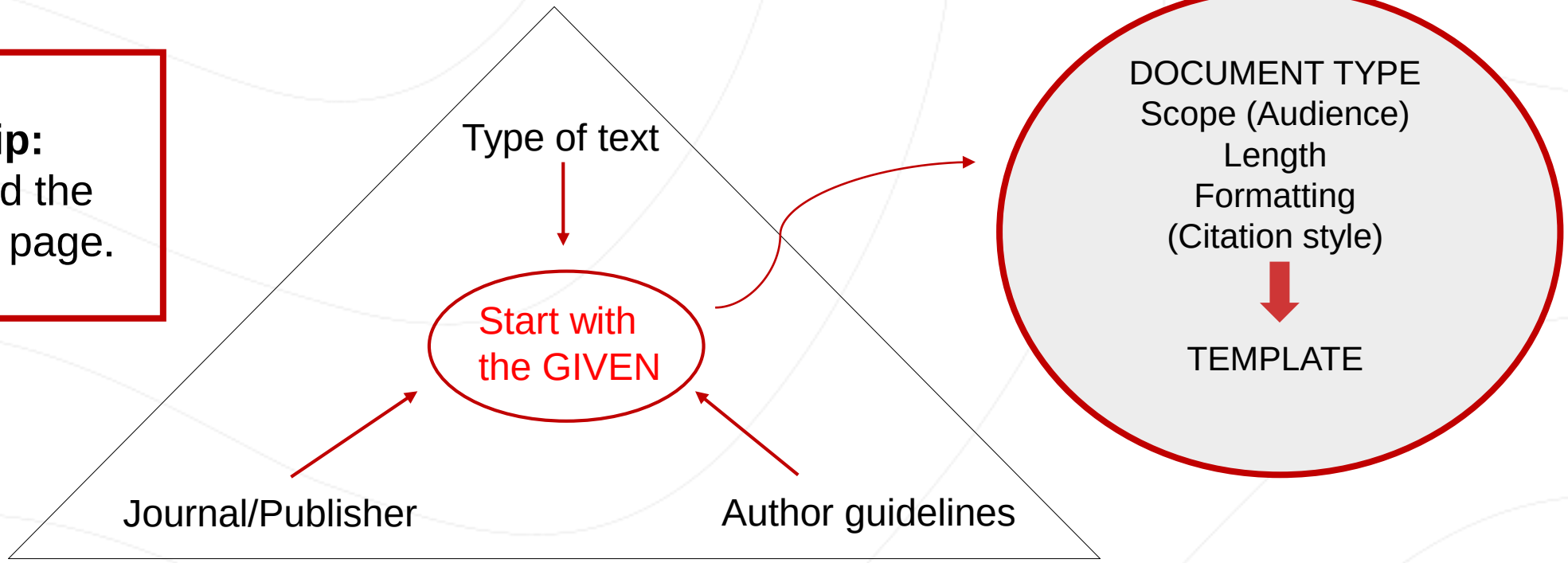
- Lost? Learn to seek help from peers, mentors, supervisors, librarians.

Tailor your writing

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

What exactly do I aim to publish?

Tip:
Avoid the blank page.



- Where best to publish it?
- How in practice?

Types of academic articles

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- ❑ Original research papers/articles (also: primary research papers/articles)
  - Most common; report the results of your experiments/present new arguments, ideas, readings
- ❑ Review articles (also: literature reviews)
  - Summaries of already published literature on a particular topic
- ❑ Methodologies
  - Research reports on methodological developments (new methods, modifications to current methods)
- ❑ Case studies
  - Common in medicine, describe details of a specific interesting case
- ❑ Short communications
  - Meant for quick publication of a novel idea, “marking research territory”
  - Brief report on research findings
- ❑ Editorials, letters to editors, book reviews, commentaries, and others

Learn more: Article structure

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

❑**TYPES OF ARTICLES**

- Different types of academic articles (Taylor and Francis Author Services)
- How to distinguish between review and research articles (Concordia University, Montreal)
- Medical Subject Headings: Publication Types (National Library of Medicine, US)

Tip:

❑**CHOOSE A JOURNAL EARLY:** check the journal webpage for samples or templates:

- APA annotated sample papers
- Different types of academic articles: Taylor and Francis Author Services = a detailed guide with templates

Learn more: Type to template

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Different types of academic articles (Taylor and Francis Author Services)

= a detailed guide with templates

What are the benefits of publishing a method article?

- Maximize the potential of your research by increasing the transparency, accessibility and reproducibility of your research by sharing innovations and new ways of approaching research questions.
- Gain credit for your methodological innovations with a citable publication.
- You can upload your method steps to **protocols.io** to increase the findability of your research.

How do I write a method article?

Method articles are medium length (2500-4000 words) article types following the standard layout for research articles and should include:

1. The abstract, introduction, method, results, and conclusions and/or discussion, within the main body of the article
2. A **data availability statement**
3. Author contributions
4. Funding/grant information
5. Any supplementary materials and appendices

Authors submitting methodology articles have the option to share their method steps on **protocols.io**. Please note, this is not required for submission but is encouraged.

Method article template

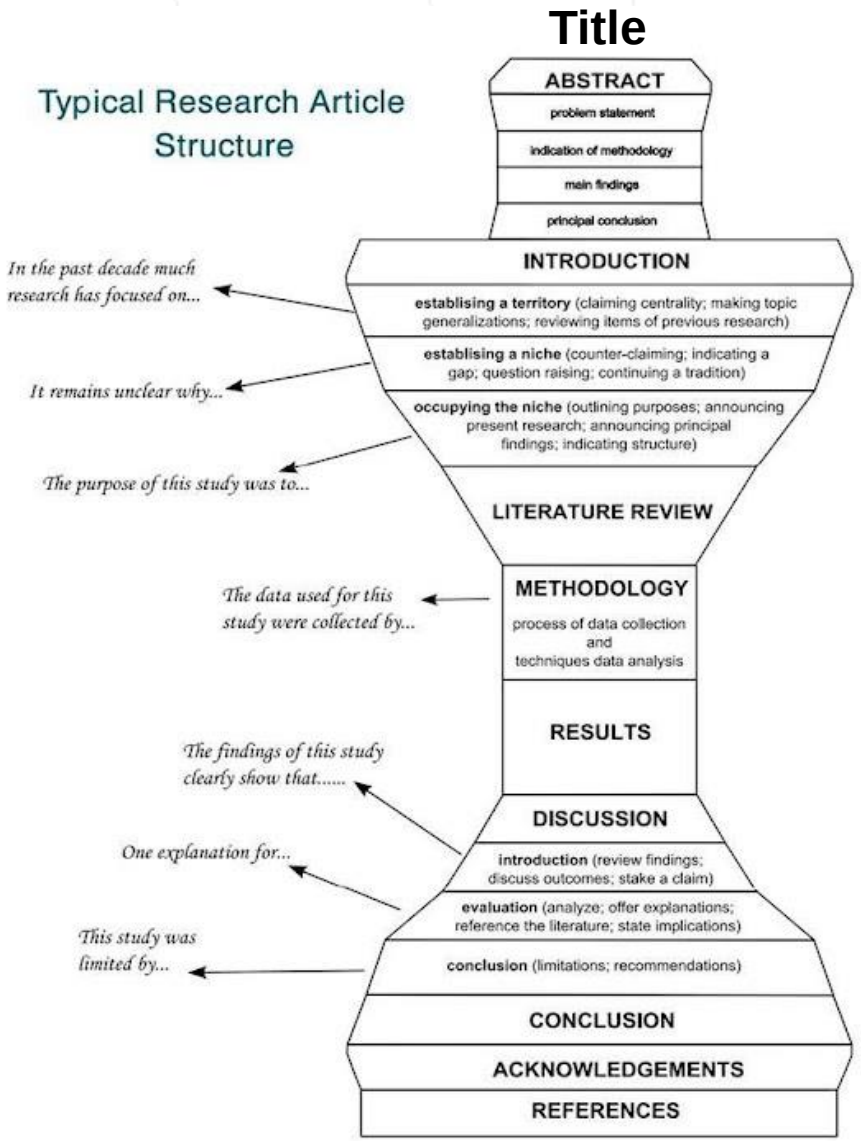
Here is a downloadable method article template to help you write and prepare your method article for submission:
F1000Research method note template

Original research article

IMRD
IMRAD
TAIMRAD

Tip:

Use a sample paper from your research area and reverse engineer it.



For detailed instructions on individual sections see, e.g.:

IMRD Cheatsheet (Carnegie Mellon University) https://www.cmu.edu/student-success/other-resources/handouts/comm-supp-pdfs/imrd-examples.pdf

History:

Sollaci LB, Pereira MG. The introduction, methods, results, and discussion (IMRAD) structure: a fifty-year survey. *J Med Libr Assoc*. 2004 Jul;92(3):364-7. PMID: 15243643; PMCID: PMC442179.

I have a template. Now what?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Easiest to write

• **1. YOU DID THIS**	– Methods	PAST TENSE
•	– Results	
• **2. NOW YOU**	– Discussion	PRESENT TENSE
• **TELL US**	– Conclusion	PRESENT, FUTURE TENSES
• **WHAT IT MEANS**		
•		
• **3. THIS IS HOW**	– Introduction	PRESENT, PRESENT PERFECT
• **IT'S BEEN**		(PAST TENSE: past intentions, events)
• **SO FAR (until you came along)**		
• **4. SUM IT UP**	– Abstract (Graphical) – Title – Keywords	

Tip:

Order of writing
≠
Order of presentation

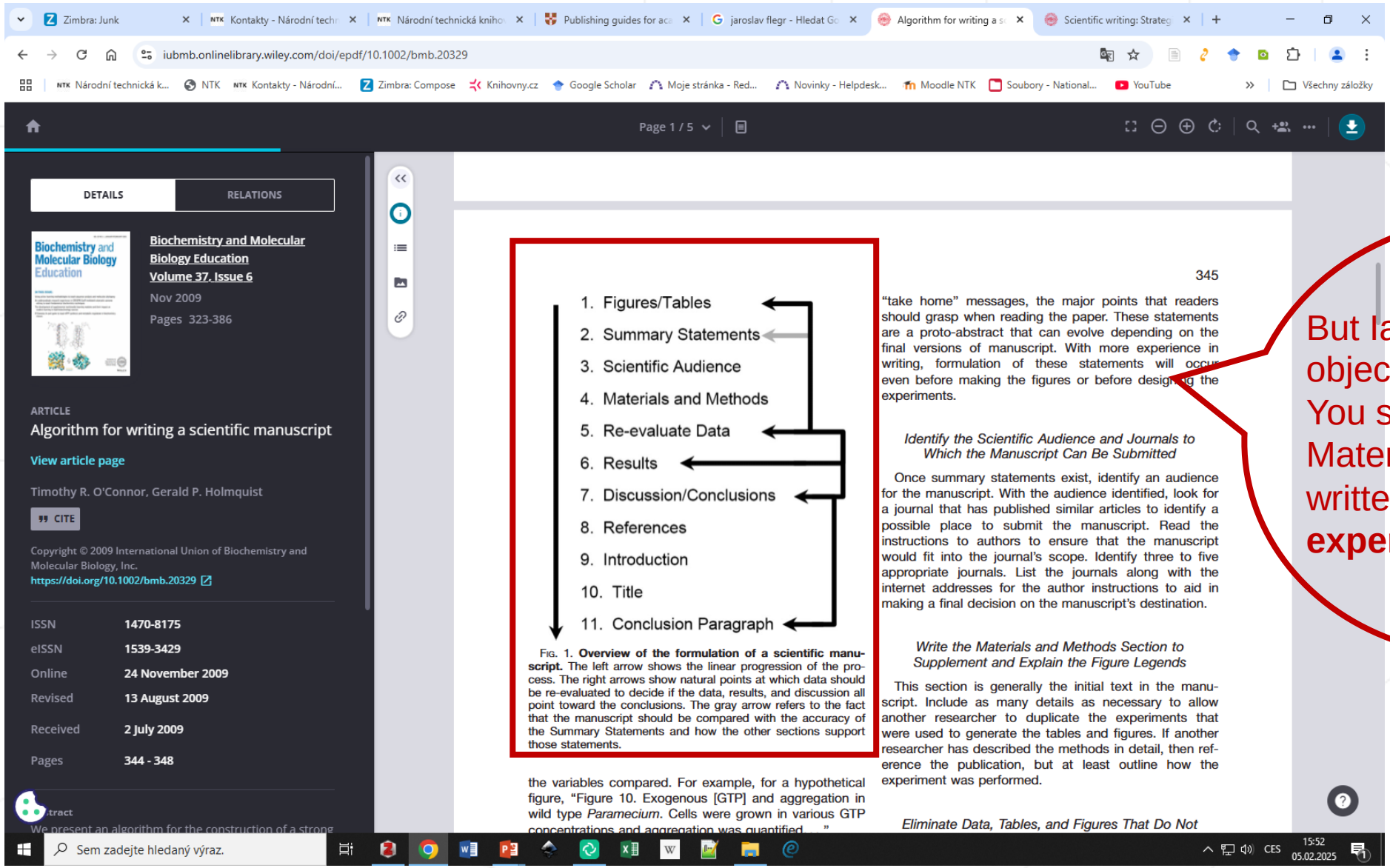
LEARN MORE: WEST, Stuart A. and Lindsay A. TURNBULL. *Scientific papers made easy: how to write with clarity and impact in the life sciences*. Oxford: Oxford University Press, [2023]. ISBN 978-0-19-286278-5.

Step-by-step resources: Scientific writing

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Baldwin, Ian T., undated. "The Baldwin Formula for Scientific Writing: Writing Papers and Reviews." Accessed 4. 10. 2024. Available from: https://people.clas.ufl.edu/jlichstein/files/Baldwin_Formula_for_writing_a_scientific_paper_and_reviewing_papers.pdf
- Gopen, George D., and Judith A. Swan, 1990. "The Science of Scientific Writing." *American Scientist* 78 (6): 550–58. Available from: https://www.usenix.org/sites/default/files/gopen_and_swan_science_of_scientific_writing.pdf
- Iskander, John K., Sara Beth Wolicki, Rebecca T. Leeb, and Paul Z. Siegel, 2018. "Successful Scientific Writing and Publishing: A Step-by-Step Approach." *Preventing Chronic Disease* 15 (June): E79. Available from: https://doi.org/10.5888/pcd15.180085
- O'Connor, Timothy R., and Gerald P. Holmquist, 2009. "Algorithm for Writing a Scientific Manuscript." *Biochemistry and Molecular Biology Education* 37 (6): 344–48. Available from: https://doi.org/10.1002/bmb.20329
- Singh, Vikash, and Philipp Mayer, 2014. "Scientific Writing: Strategies and Tools for Students and Advisors." *Biochemistry and Molecular Biology Education* 42 (5): 405–13. Available from: https://doi.org/10.1002/bmb.20815
- Turbek, Sheela P., Taylor M. Chock, Kyle Donahue, Caroline A. Havrilla, Angela M. Oliverio, Stephanie K. Polutchko, Lauren G. Shoemaker, and Lara Vimercati, 2016. "Scientific Writing Made Easy: A Step-by-Step Guide to Undergraduate Writing in the Biological Sciences." *The Bulletin of the Ecological Society of America* 97 (4): 417–26. Available from: https://doi.org/10.1002/bes2.1258

O'Connor and Holmquist (2009): "Algorithm for Writing a Scientific Manuscript"



Zimbra: Junk | Kontakty - Národní techn | Národní technická knihov | Publishing guides for aca | jaroslav flegr - Hledat Go | Algorithm for writing a s | Scientific writing: Strateg

iubmb.onlinelibrary.wiley.com/doi/epdf/10.1002/bmb.20329

Národní technická k... | NTK | Kontakty - Národní... | Zimbra: Compose | Knihovny.cz | Google Scholar | Moje stránka - Red... | Novinky - Helpdesk... | Moodle NTK | Soubory - National... | YouTube | Všechny záložky

Page 1 / 5

DETAILS | RELATIONS

Biochemistry and Molecular Biology Education

Biochemistry and Molecular Biology Education
Volume 37, Issue 6
Nov 2009
Pages 323-386

ARTICLE

Algorithm for writing a scientific manuscript

View article page

Timothy R. O'Connor, Gerald P. Holmquist

CITE

https://doi.org/10.1002/bmb.20329

ISSN	1470-8175
eISSN	1539-3429
Online	24 November 2009
Revised	13 August 2009
Received	2 July 2009
Pages	344 - 348

tract
We present an algorithm for the construction of a strong

1. Figures/Tables
2. Summary Statements
3. Scientific Audience
4. Materials and Methods
5. Re-evaluate Data
6. Results
7. Discussion/Conclusions
8. References
9. Introduction
10. Title
11. Conclusion Paragraph

FIG. 1. **Overview of the formulation of a scientific manuscript.** The left arrow shows the linear progression of the process. The right arrows show natural points at which data should be re-evaluated to decide if the data, results, and discussion all point toward the conclusions. The gray arrow refers to the fact that the manuscript should be compared with the accuracy of the Summary Statements and how the other sections support those statements.

"take home" messages, the major points that readers should grasp when reading the paper. These statements are a proto-abstract that can evolve depending on the final versions of manuscript. With more experience in writing, formulation of these statements will occur even before making the figures or before designing the experiments.

Identify the Scientific Audience and Journals to Which the Manuscript Can Be Submitted

Once summary statements exist, identify an audience for the manuscript. With the audience identified, look for a journal that has published similar articles to identify a possible place to submit the manuscript. Read the instructions to authors to ensure that the manuscript would fit into the journal's scope. Identify three to five appropriate journals. List the journals along with the internet addresses for the author instructions to aid in making a final decision on the manuscript's destination.

Write the Materials and Methods Section to Supplement and Explain the Figure Legends

This section is generally the initial text in the manuscript. Include as many details as necessary to allow another researcher to duplicate the experiments that were used to generate the tables and figures. If another researcher has described the methods in detail, then reference the publication, but at least outline how the experiment was performed.

Eliminate Data, Tables, and Figures That Do Not

the variables compared. For example, for a hypothetical figure, "Figure 10. Exogenous [GTP] and aggregation in wild type *Paramecium*. Cells were grown in various GTP concentrations and aggregation was quantified. . . ."

Sem zadejte hledaný výraz.

CES 15:52 05.02.2025

But Ian T. Baldwin would object:
You should have Materials and Methods written up **already while experimenting**…

Comprehensive guides to scientific writing

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Carter, Matt. *Designing Science Presentations: A Visual Guide to Figures, Papers, Slides, Posters, and More*, Elsevier Science & Technology, 2013.
- Foster, David H. *A concise guide to communication in science and engineering*. Oxford: Oxford University Press, 2017.
- Gastel, Barbara and Robert A. Day. *How to write and publish a scientific paper*. Ninth edition. Cambridge: Cambridge University Press, 2024.
- Glasman-Deal, Hilary. *Science research writing: for native and non-native speakers of English*. Second edition. New Jersey: World Scientific, 2021.
- Lebrun, Jean-Luc. *Scientific Writing 2.0: A Reader And Writer's Guide*, World Scientific Publishing Company, 2011.
- Schimel, Joshua. *Writing Science: How to Write Papers That Get Cited and Proposals That Get Funded*. Oxford: Oxford University Press, 2012.
- Turabian, Kate L. et al. *A manual for writers of research papers, theses, and dissertations: Chicago style for students and researchers*. 9th edition. Chicago guides to writing, editing, and publishing. Chicago: The University of Chicago Press, 2018.

- **Check out this language resource:** Manchester Academic Phrasebank

How do I actually start?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

1. **Set up a template (name the file)**: what exactly are you writing?

2. **Write up as you go** = write up as you read & experiment.
   Learn more from this Harvard Guide to summarizing, paraphrasing, and quoting

3. **Schedule writing time.** (Use Pomodoro method?)

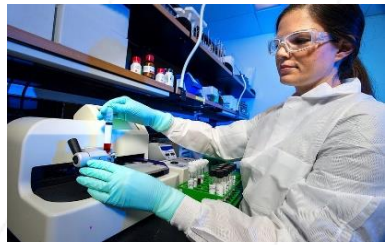
4. **Always start with what's easiest:** what have you got already?
   - Type of paper ("genre") = structure, **length**, language
   - Story = what is it about & for whom? (audience)
   - **Provisional title** = keeps you on the straight and narrow (esp. humanities)

What do I have already?

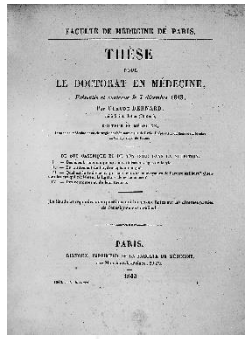
- Where am I?

Poster
Conference paper

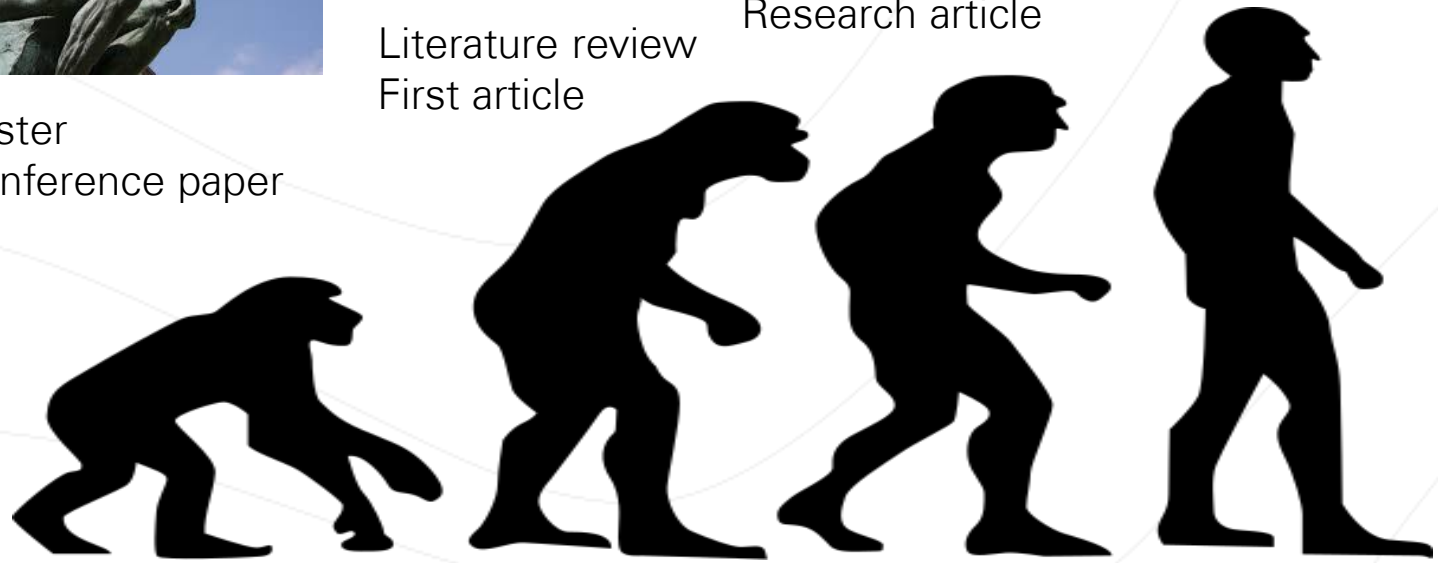
Literature review
First article



New data
Poster
Conference paper
Research article



Systematic literature review
Research article(s)
Monograph (book)



Start with what? Write anew, or convert?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

What's NEW about it? One thing.

I have	Convert into
Conference paper/poster	Research article (journal or conference proceedings)
State-of-the-art chapter	Literature review
Research thesis/dissertation	Research article (or two, three)
Doctoral dissertation	Monograph (humanities)

How to convert what you have

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

❑ Further advice

- Extracting a journal article from your thesis (Taylor and Francis Author Services)
- APA Guidelines

❑ Peer-to-peer advice

- From Masters thesis to a journal article in vet medicine (University of Edinburgh)
- From MSc dissertation to academic paper (Centre for Evidence-Based Medicine, Oxford)

Converting (reusing): practical issues

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

❑ CAN I REUSE

A. an already published article/conference paper as part of my thesis/dissertation?

B. my thesis/dissertation in a manuscript to be submitted for publication?

❑ YOU MUST COMPLY WITH

A.

- Your university/faculty rules. **Watch out for:** compatibility of articles reused in a thesis.
- Your copyright/licensing agreement with a Publisher.

B.

- The publisher's **author guidelines**. Reusing is often (usually) allowed – if in doubt, check directly with the journal editor/book publisher.

LEARN MORE:
- See this **table on the practice of re-using** for a variety of English and American academic publishers.

Licensing agreement: permission to reuse

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

d) The Licensee grants to Author the following non-exclusive rights to the Version of Record, provided that, when reproducing the Version of Record or extracts from it, the Author acknowledges and references first publication in the Volume according to current citation standards. As a minimum, the acknowledgement must state: "First published in [Volume, page number, year] by Springer Nature".

i. to reuse graphic elements created by the Author and contained in the Contribution, in presentations and other works created by them;

ii. the Author and any academic institution where they work at the time may reproduce the Contribution for the purpose of course teaching (but not for inclusion in course pack material for onward sale by libraries and institutions);

iii. to reuse the Version of Record or any part in a thesis written by the same Author, and to make a copy of that thesis available in a repository of the Author(s)' awarding academic institution, or other repository required by the awarding academic institution. An acknowledgement should be included in the citation: "Reproduced with permission from Springer Nature";

iv. to reproduce, or to allow a third party to reproduce the Contribution, in whole or in part, in any other type of work (other than thesis) written by the Author for distribution by a publisher after an embargo period of 12 months; and

v. to publish an expanded version of their Contribution provided the expanded version (i) includes at least 30% new material (ii) includes an express statement specifying the incremental change in the expanded version (e.g., new results, better description of materials, etc.).

Permission to reuse the published article in a thesis

Excerpted from:
Springer Nature Switzerland
License to Publish Proceedings Paper

Or is it new? Tell us explicitly. Be direct.

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- ❑ **Fill a gap**: There's a clear gap in the existing research and my article is going to fill it.
- ❑ **Take it further**: My article builds on the existing state of knowledge, supporting it with extra evidence or extending it ("moving the edge").
- ❑ **Upend the status quo**: My article argues against the received wisdom and suggests a new direction is required. = RISKY!

Learn more:

- Belcher, Wendy L. (c2009). *Writing your journal article in 12 weeks: a guide to academic publishing success*. SAGE Publications.

Use Generative AI ?

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Authorship? Check author guidelines first.

AI Contributions to Research Content

- AI use must be declared and clearly explained in publications such as research papers, just as we expect scholars to do with other software, tools and methodologies.
- AI does not meet the Cambridge requirements for authorship, given the need for accountability. AI and LLM tools may not be listed as an author on any scholarly work published by Cambridge
- Authors are accountable for the accuracy, integrity and originality of their research papers, including for any use of AI.
- Any use of AI must not breach Cambridge's plagiarism policy. Scholarly works must be the author's own, and not present others' ideas, data, words or other material without adequate citation and transparent referencing.

Please note, individual journals may have more specific requirements or guidelines for upholding this policy.

Cambridge University Press AI policy

- **Current IEEE AI policy** requires authors to acknowledge all use of generative AI to produce content.
- In case of editing, grammar enhancement, and spellchecks, disclosure is NOT required, but it is recommended.

Use of Gen AI: Stay in charge

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Humanities	Sciences
✓Refine questions, keywords	✓Refine questions, keywords
✓Language corrections	✓Language corrections
X Re-styling	? Re-styling: maybe…
X Writing	X Writing

Learn more:
AI Essentials for Academia
Webinar

12 November 2025

Template to timeline: summary

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

1. WHAT: Type of document

- **What** do I aim to publish?
- **What** do I have already?
- **What**'s new about it?

TEMPLATE

2. WHERE = HOW

- Choose a journal early => author guidelines => template:
- Scope, format, **LENGTH**, use of AI, and other requirements

3. WHEN: Publication deadline

- Publishing timeline

When do you need to reach the stage of AAM or VoR?

→ Submission deadline

How long does editorial processing take, on average, at your chosen journal?

→ WRITING TIMELINE

Set a deadline for:
- First draft,
- Submission-ready copy.

From final draft to submission

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Revising, formatting and proofreading before submission are essential.

- Multiple authors all need to agree on the final text (formal consent may be required).

- Schedule enough time to do all this.

*Formatting a paper = avg. 14 hours;

multiple authors = more time required.

*LeBlanc AG, Barnes JD, Saunders TJ, Tremblay MS, Chaput J-P (2019) Scientific sinkhole: The pernicious price of formatting. PLoS ONE 14(9): e0223116. https://doi.org/10.1371/journal.pone.0223116.

Revising and proofreading

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- Use AI tools for corrections (but check author guidelines first!): see our guide NTK Tools to support writing.

- Change font while revising and do at least **one round of proofs on paper**.

Another set of eyes (and a brain ☺) are essential for spotting errors:

- Find a peer and ask them to proofread as a favour (to be returned);

- Find a native speaker, ideally a specialist in your area;

- Pay for a professional service. Costly but might be required.

After revisions and proofreading

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Always use a final checklist before submission.

❑Some publishers offer their own checklists: check out their website.

Example: Article Submission Checklist (Taylor and Francis)

❑Use our NTK checklists.

Pre-Submission Checklist 1: Contents

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

For authors:

Research Article Self-Check Questions

DOI 10.48813/3933-3c82

For peer reviewers:

Research Article Peer Review Questions

DOI 10.48813/9a2y-1v87

Pre-submission checklist 2: Admin

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

1. Have you followed the relevant author guidelines? (Word count; prescribed formatting, citation method and style; keywords, title and abstract; presentation of data: figures and charts, and other.) Have you written a cover letter?
2. Did you have another pair of eyes proofread your article? Revise and proofread **before** submission.
3. Are you clear on the required publishing model (e.g., OA) and/or license? Can you fund it?
4. Do you need or want to share research data associated with your article?
5. Do you have written permission for any third-party materials you've included?
6. Have you included the name and affiliation of any co-authors?
7. Have you included a disclosure statement on funding and declared any competing interests?
8. Have you included your ORCiD?
9. Do you have the correct files ready to upload? For double-blind review, an anonymized version of you article will be required.
10. Do you know which submission system the journal uses?

Further resources on writing @ NTK

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

❑ NTK Guides to Writing:

- Academic Writing & Publishing
- AI Tools to Support Writing

❑ NTK Academic Writing Q&A Series (short videos)

❑Arrange a free individual consultation in person or online.

Learning outcomes

❑ Understand where you are in the **publication process:**

✓ Submission-to-publication timeline: stages of a peer review.

❑ Understand where you are in the **writing process:**

✓ Writing, converting into, or re-using *as what*? Type to template.

✓ Draft-to-submission timeline: draw up a schedule.

❑ Know **what you need** and **how to proceed** to get published:

✓ Further resources, guides & author guidelines, templates, checklists.

Get Assistance

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

- ❑ **Schedule a consultation**
- ❑ **Attend a webinar**
  - Kick Start Your Research Career with NTK: Webinars for Early Career Researchers

- ❑ **Explore by yourself**
  - STEMskiller: comprehensive skills set map for early career researchers
  - Tutorials: NTK instructional materials and recordings, further resources

Stay ahead in your research journey! **Subscribe to our newsletter for updates** on academic resources, writing support, publishing, research evaluation, and training opportunities.

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology

Thank you for your attention.

Questions?

Contacts:

barbora.satkova@techlib.cz alena.dvorakova@techlib.cz