



# WikiJournal

WikiJournal User Group

Andrew Leung (User:OhanaUnited)

Editor-in-Chief

WikiJournal of Science

# Overview of WikiJournal

# WikiJournal

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Open access peer reviewed journal

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No author or reader fees

---

Hosted on Wikiversity

---

Increasing engagement with academic peer reviewed material

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Authors can work directly online

---

Bridging Wikimedia movement and academic publishing

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Transparency



# Current Journals

WikiJournal  
of Medicine

Medicine and  
biomedicine  
(Flagship)



WikiJournal  
of Science

Science,  
mathematics,  
engineering and  
technology



WikiJournal  
of Humanities

Humanities, arts,  
and social  
sciences



WikiJournal  
of PPB

Psychology,  
Psychiatry, and  
Behavioral  
Sciences



WikiJournal  
Preprints

Content under  
peer review or  
still being drafted



# Types of Publications



## Reviews (encyclopedic)

Beak and feather disease virus: biology and resultant disease

A history of coronaviruses

## Mini reviews

Epidemiology of the Hepatitis D virus

## Images and Image galleries

Cell disassembly during apoptosis

Medical gallery of Blausen Medical 2014

## Research

Viewer interaction with YouTube videos about hysterectomy recovery

## Teaching Material

Acute gastrointestinal bleeding from a chronic cause: a teaching case report

## Protocols

Does the packaging of health information affect the assessment of its reliability? A randomized controlled trial protocol

## Reviews (stand-alone)

E-extension in Nepal: brief overview in Nepalese agriculture

# **Bridging Wikipedia and Academic Publishing**

# Who reads Wikipedia



Researchers



Clinicians



Lawmakers



Journalists



Patients

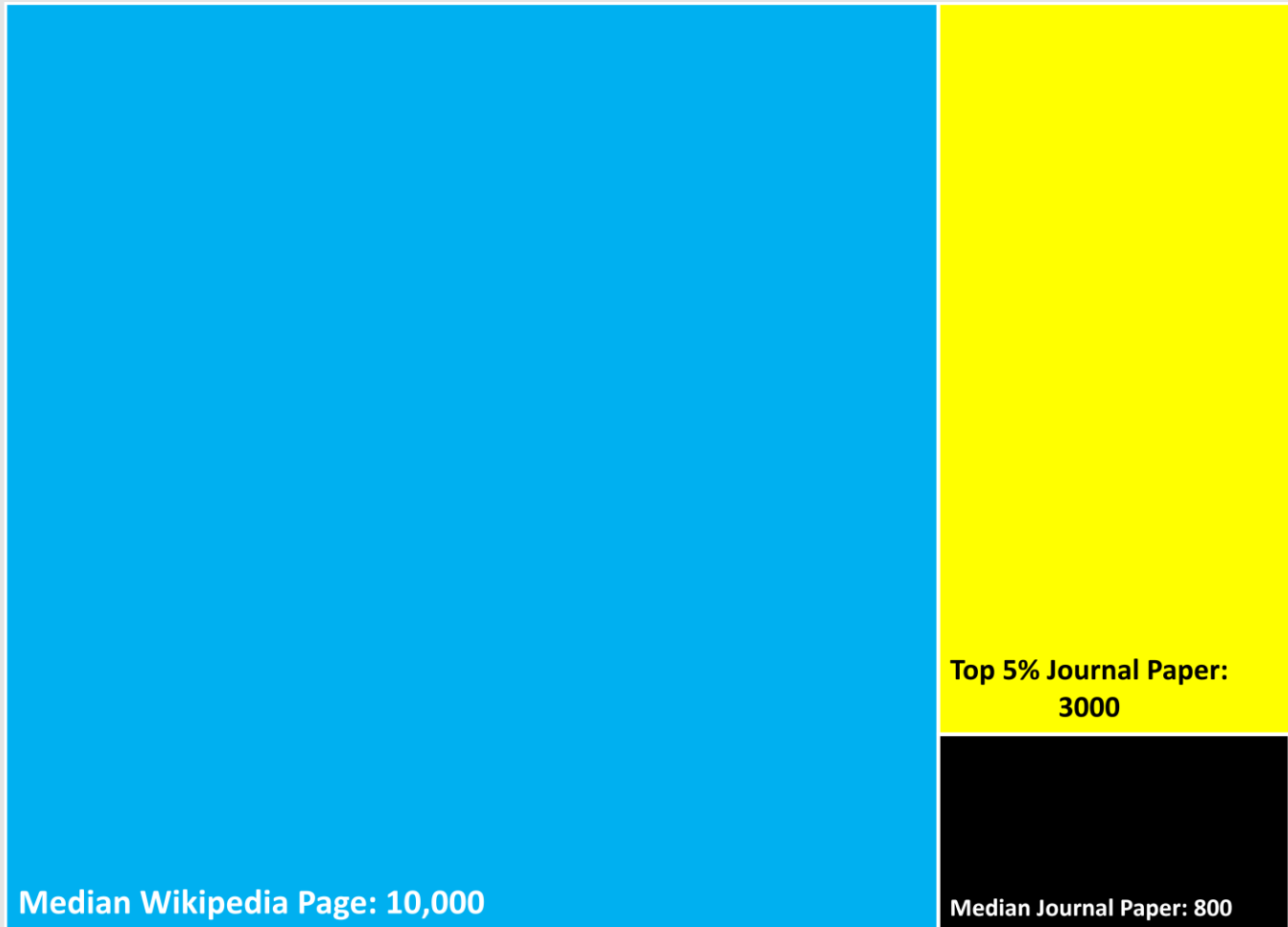


Students

# Reach Comparison: *Wikipedia vs Traditional Journal*

## Reach Comparison: Wikipedia vs. Traditional Journal

■ Thesis: 1-10 ■ Median Journal Paper: 800 ■ Top 5% Journal Paper: 3000 ■ Median Wikipedia Page: 10,000

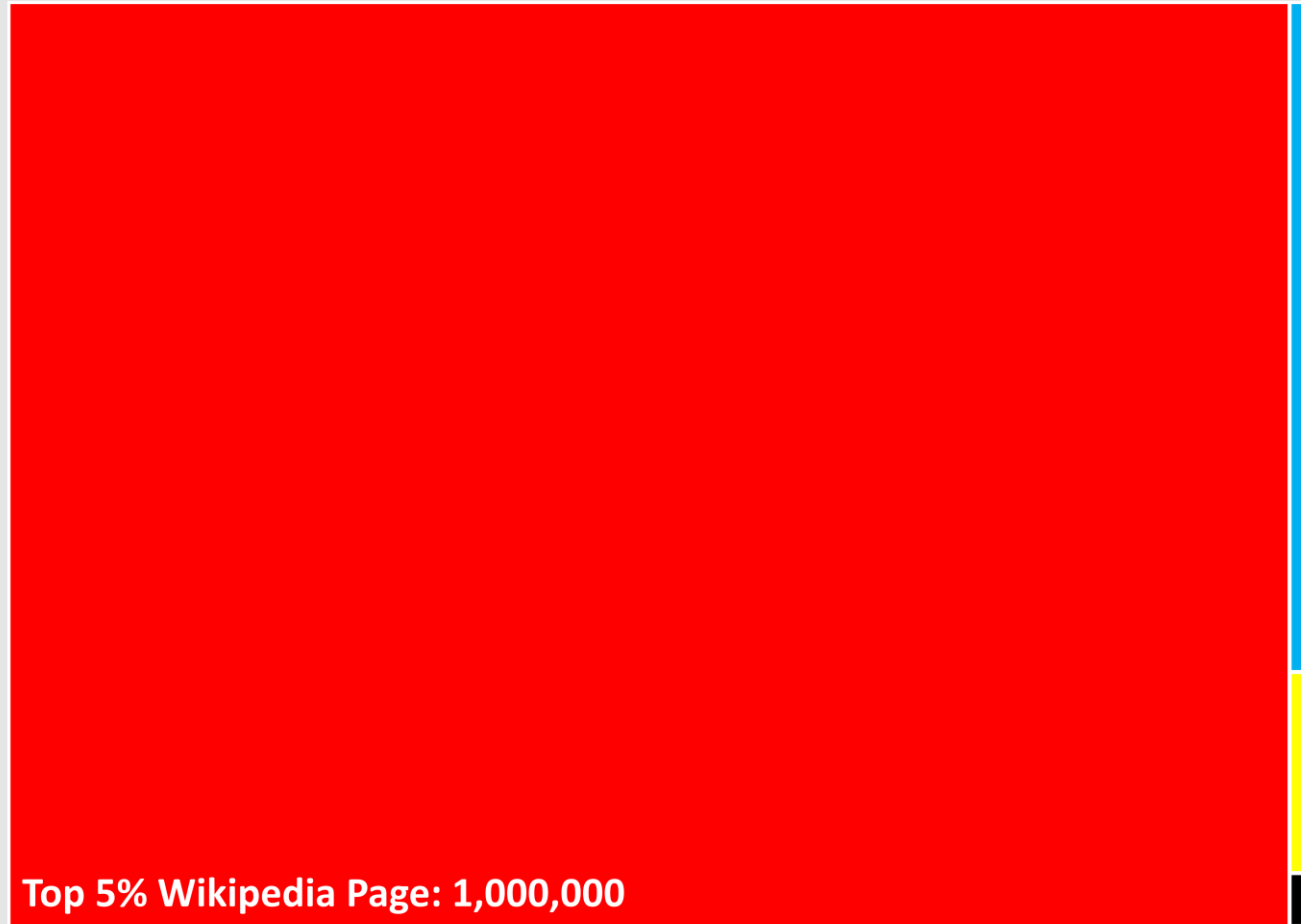




# Reach Comparison: *Wikipedia vs Traditional Journal*

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- Thesis: 1-10
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# Wiki as a Platform for Academic Publishing



Peer reviewed  
content available to  
everyone



Online Collaboration



Free for author and  
reader



Larger visibility



Reviewed specialist  
knowledge

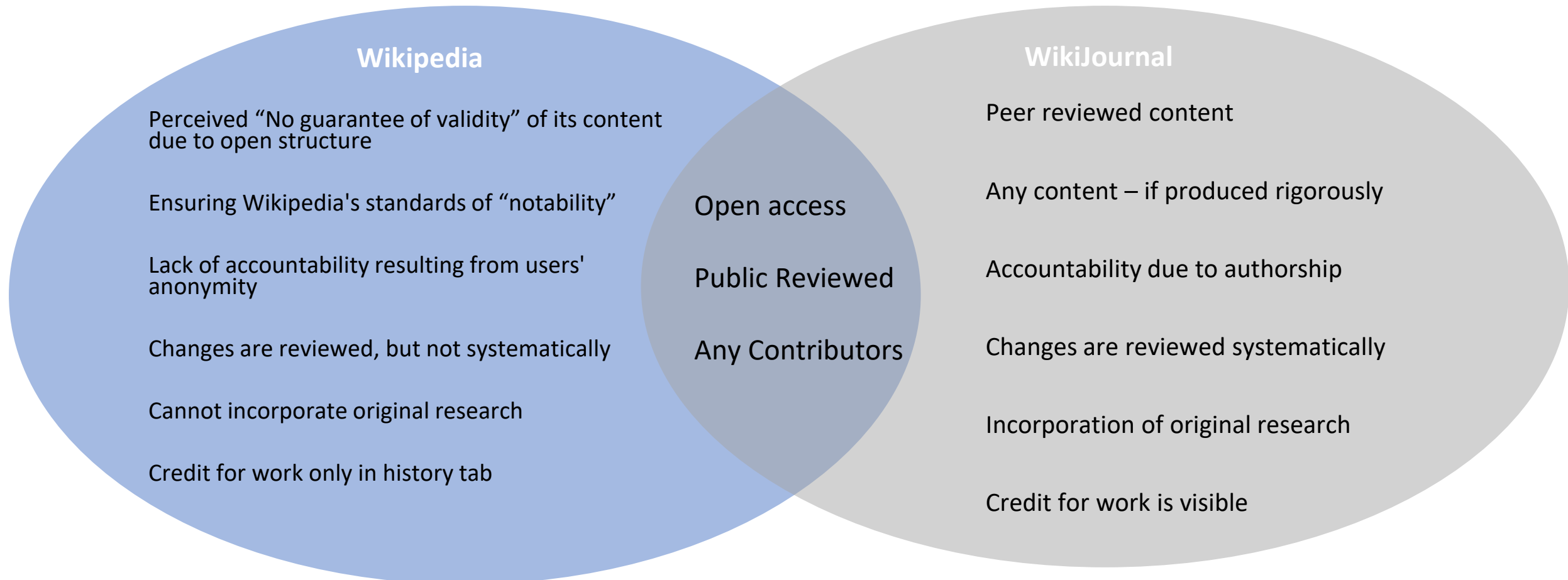


Living version

# Similarities and difference to normal journals

	Academic Journal	Wikipedia
Readership size	Small and brief Median article - 800 total Top 5% article - 3000 total	Very large and extended Median article - 10,000 per year Top 5% article - 1,000,000 per year
Readership composition	Other academics, often within narrow field	General public as well as experts and professionals
Peer review	Pre-publication, private review by 2-4 subject specialists	Post-publication public review of a sort by subject generalists 'Good article' - 1 reviewer 'Featured Article' - 5-12 reviewers
Reputation	Varies by journal but generally extremely high	Public generally trust Academics have mixed opinions but improving
Authorship	Small number with relevant, accredited expertise. Organised group with lead and corresponding authors.	Large number with mixed expertise levels. Loose organisation. Many pseudonymous or anonymous.
Timeliness	Static Updated by new publications	Constantly updated Only one consensus version

# Benefits of WikiJournal versus Wikipedia

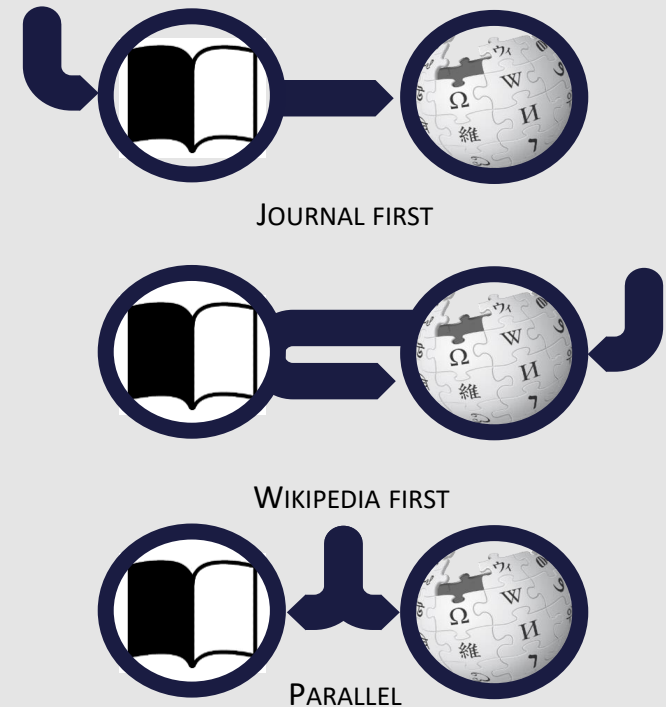


# Why it is better than Wikipedia alone and other journals alone?

- Content published into both Wikipedia and academic corpus

Stable, citable, peer-reviewed journal version

Living version with extreme impact of Wikipedia



**A Wider Understanding  
on the WikiJournals  
Initiative**

# Development of Concept – Timeline



**2008**

*RNA Biology* starts requiring authors to update Wikipedia



**2012**

*PLOS Comp Biol* starts publishing 'topic page' review format



**2013**

*Gene* starts Gene Wiki Reviews



**2014**

*Open Med* puts Wikipedia page through peer



**2014**

*WikiMed* publishes first issue



**2018**

*PLOS Genetics* also starts publishing 'topic page' format



**2018**

*WikiSci & WikiHum* publishes first issue

# Open access



**'Diamond' Open Access**



**No cost to author or reader**



**Articles immediately open access  
available online**



# Financing Academic Journals

Reader subscription / author (e.g. *Gene*, *RNA Biol*)

- Typically charge subscription fees
- Article processing fee of \$3300 and \$2000 respectively

Journal fee waiver (e.g. *PLOS*)

- For Topic Page review articles, *PLOS* waives its usual \$2250 processing fee

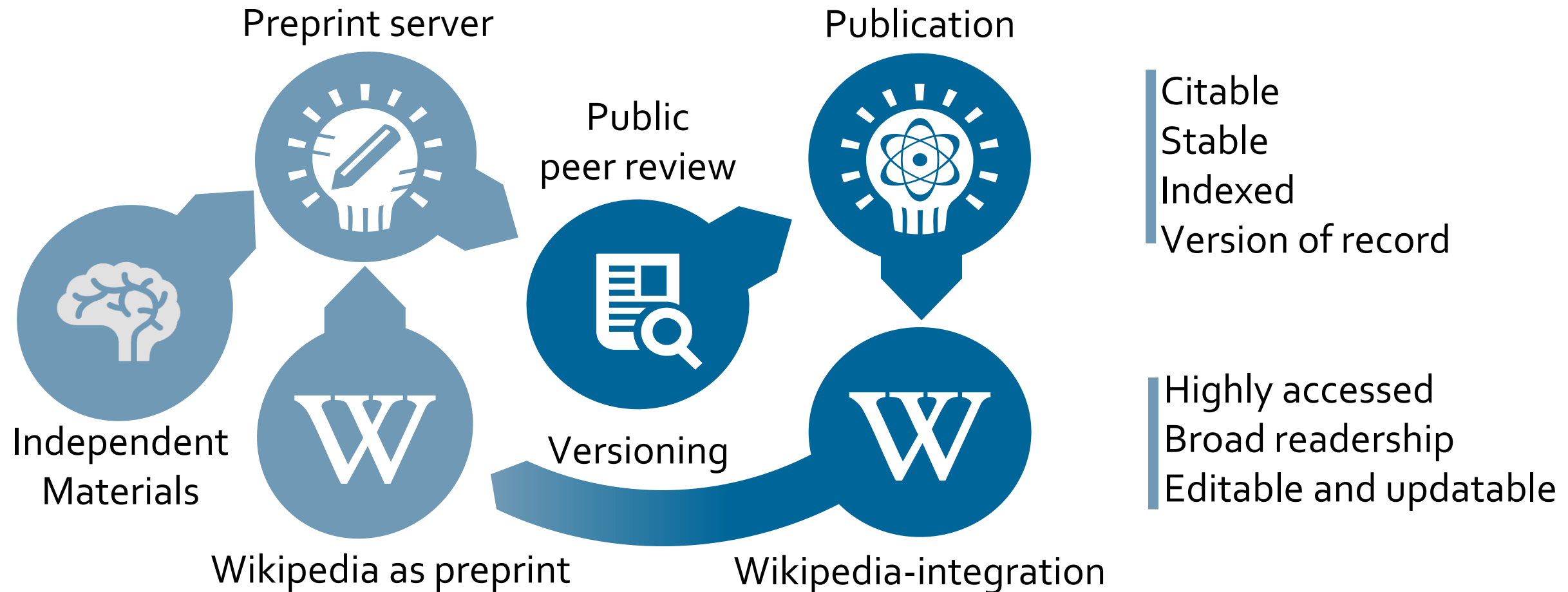
Charitable foundation (e.g. *Wiki.J.Med.*)

- Web hosting cost is covered by the Wikimedia Foundation
- Editors donate volunteer labour so no fees of any kind



# **WikiJournal Article Processing**

# WikiJournal Publishing Flow



# Dual Publishing Options



Publish in Wikipedia



Submit Wikipedia page for peer review



Publish in WikiJournal

Submit independent article for peer review



Publish in WikiJournal



Publish in Wikipedia

# Academic and Wikipedic Version

OPEN ACCESS Freely available online

PLOS COMPUTATIONAL BIOLOGY

Topic Page

## Circular Permutation in Proteins

Spencer Bliven<sup>1\*</sup>, Andreas Prlić<sup>2\*</sup>

**1** Bioinformatics Program, University of California, San Diego, La Jolla, California, United States of America, **2** San Diego Supercomputer Center, University of California San Diego, La Jolla, California, United States of America

This is a "Topic Page" article for *PLoS Computational Biology*.

Circular permutation describes a type of relationship between proteins, whereby the proteins have a changed order of amino acids in their protein sequence, such that the sequence of the first portion of one protein (adjacent to the N-terminus) is related to that of the second portion of the other protein (near its C-terminus), and vice versa (see Figure 1). This is directly analogous to the mathematical notion of a cyclic permutation over the set of residues in a protein.

Circular permutation can be the result of evolutionary events, post-translational modifications, or artificially engineered mutations. The result is a protein structure with different connectivity, but overall similar three-dimensional (3D) shape. The homology between portions of the proteins can be established by observing similar sequences between N- and C-terminal portions of the two

permutated variants of cyclic wild-type proteins [10]. SISYPHUS is a database that contains a collection of hand-curated manual alignments of proteins with non-trivial relationships, several of which have circular permutations [11].

### Evolution

There are two main models that are currently being used to explain the evolution of circularly permuted proteins: *permutation by duplication and fission and fusion*. The two models have compelling examples supporting them, but the relative contribution of each model in evolution is still under debate [12]. Other, less common, mechanisms have been proposed, such as "cut and paste" [13] or "exon shuffling."

Permutation by Duplication

## References [ edit source ]

- <sup>1</sup> Cunningham BA, Hemperly JJ, Hopp TP, Edelman GM (July 1979). "Favin versus concanavalin A: Circularly permuted amino acid sequences"<sup>↗</sup>. *Proceedings of the National Academy of Sciences of the United States of America*. **76** (7): 3218–22. doi:10.1073/pnas.76.7.3218<sup>↗</sup>. PMC 383795<sup>↗</sup>. PMID 16592676<sup>↗</sup>.
- <sup>2</sup> Einspahr H, Parks EH, Suguna K, Subramanian E, Suddath FL (December 1986). "The crystal structure of pea lectin at 3.0-Å resolution". *The Journal of Biological Chemistry*. **261** (35): 16518–27. PMID 3782132<sup>↗</sup>.

The 2012 version of this article has passed academic peer review (here), has been published in *PLOS Computational Biology* and can be cited as:

Bliven S, Prlić A (2012). "Circular permutation in proteins". *PLOS Computational Biology*. **8** (3): e1002445. doi:10.1371/journal.pcbi.1002445. PMC 3320104<sup>↗</sup>. PMID 22496628.<sup>↗</sup>



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The Free Encyclopedia

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## Circular permutation in proteins

From Wikipedia, the free encyclopedia  
(Redirected from Circular permutant)

A **circular permutation** is a relationship between proteins whereby the proteins have a changed order of amino acids in their peptide sequence. The result is a protein structure with different connectivity, but overall similar three-dimensional (3D) shape. In 1979, the first pair of circularly permuted proteins – concanavalin A and lectin – were discovered; over 2000 such proteins are now known.

Circular permutation can occur as the result of evolutionary events, posttranslational modifications, or artificially engineered mutations. The two main models proposed to explain the evolution of circularly permuted proteins are *permutation by duplication and fission and fusion*. Permutation by duplication occurs when a gene undergoes duplication to form a tandem repeat, before redundant sections of the protein are removed; this relationship is found between saposin and swaposin. Fission and fusion occurs when partial proteins fuse to form a single polypeptide, such as in nicotinamide nucleotide transhydrogenases.

Circular permutations are routinely engineered in the laboratory to improve their catalytic activity or thermostability, or to investigate properties of the original protein.

Traditional algorithms for sequence alignment and structure alignment are not able to detect circular permutations between proteins. New non-linear approaches have been developed that overcome this and are able to detect topology-independent similarities.

Contents [hide]

- History
- Evolution
  - Permutation by duplication
    - Saposin and swaposin
  - Fission and fusion
    - Transhydrogenases
  - Other processes that can lead to circular permutations
    - Post-translational modification
- The role of circular permutations in protein engineering
- Algorithmic detection of circular permutations
- References
- Further reading

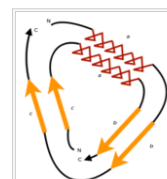
### History [ edit source | edit ]

In 1979, Bruce Cunningham and his colleagues discovered the first instance of a circularly permuted protein in nature.<sup>[1]</sup> After determining the peptide sequence of the lectin protein favin, they noticed its similarity to a known protein – concanavalin A – except that the ends were circularly permuted. Later work confirmed the circular permutation between the pair<sup>[2]</sup> and showed that concanavalin A is permuted post-translationally<sup>[3]</sup> through cleavage and an unusual protein ligation.<sup>[4]</sup>

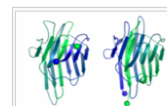
After the discovery of a natural circularly permuted protein, researchers looked for a way to emulate this process. In 1983, David Goldenberg and Thomas Creighton were able to create a circularly permuted version of a protein by chemically ligating the termini to create a cyclic protein, then introducing new termini elsewhere using trypsin.<sup>[5]</sup> In 1989, Karin Luger and her colleagues introduced a genetic method for making circular permutations by carefully fragmenting and ligating DNA.<sup>[6]</sup> This method allowed for permutations to be introduced at arbitrary sites.<sup>[6]</sup>

Despite the early discovery of post-translational circular permutations and the suggestion of a possible genetic mechanism for evolving circular permuteds, it was not until 1995 that the first circularly permuted pair of genes were discovered. Saposins are a class of proteins involved in sphingolipid catabolism and antigen presentation of lipids in humans. Chris Ponting and Robert Russell identified a circularly permuted version of a saposin inserted into plant aspartic proteinase, which they nicknamed swaposin.<sup>[7]</sup> Saposin and swaposin were the first known case of two natural genes related by a circular permutation.<sup>[7]</sup>

Hundreds of examples of protein pairs related by a circular permutation were subsequently discovered in nature or produced in the laboratory. As of February 2012, the Circular Permutation Database<sup>[8]</sup> contains 2,238 circularly permuted protein pairs with known structures, and many more are known without structures.<sup>[8]</sup> The CyBase database collects proteins that are cyclic, some of which are permuted variants of cyclic wild-type proteins.<sup>[10]</sup> SISYPHUS is a database that contains a collection of hand-curated manual alignments



Schematic representation of a circular permutation in two proteins. The first protein (outer circle) has the sequence a-b-c. After the permutation the second protein (inner circle) has the sequence c-a-b. The letters N and C indicate the location of the amino- and carboxy-termini of the protein sequences and how their positions change relative to each other.



Two proteins that are related by a circular permutation. Concanavalin A (left), from the Protein Data Bank (PDB: 3ona), and peanut lectin (right), from PDB: 2pel, which is homologous to favin. The termini of the proteins are highlighted by blue and green spheres, and the sequence of residues is indicated by the gradient from blue (N-terminus) to green (C-terminus). The 3D fold of the two proteins is highly similar, however, the N- and C-termini are swapped on different positions of the protein.<sup>[11]</sup>

# Peer Review Process



## Peer Review

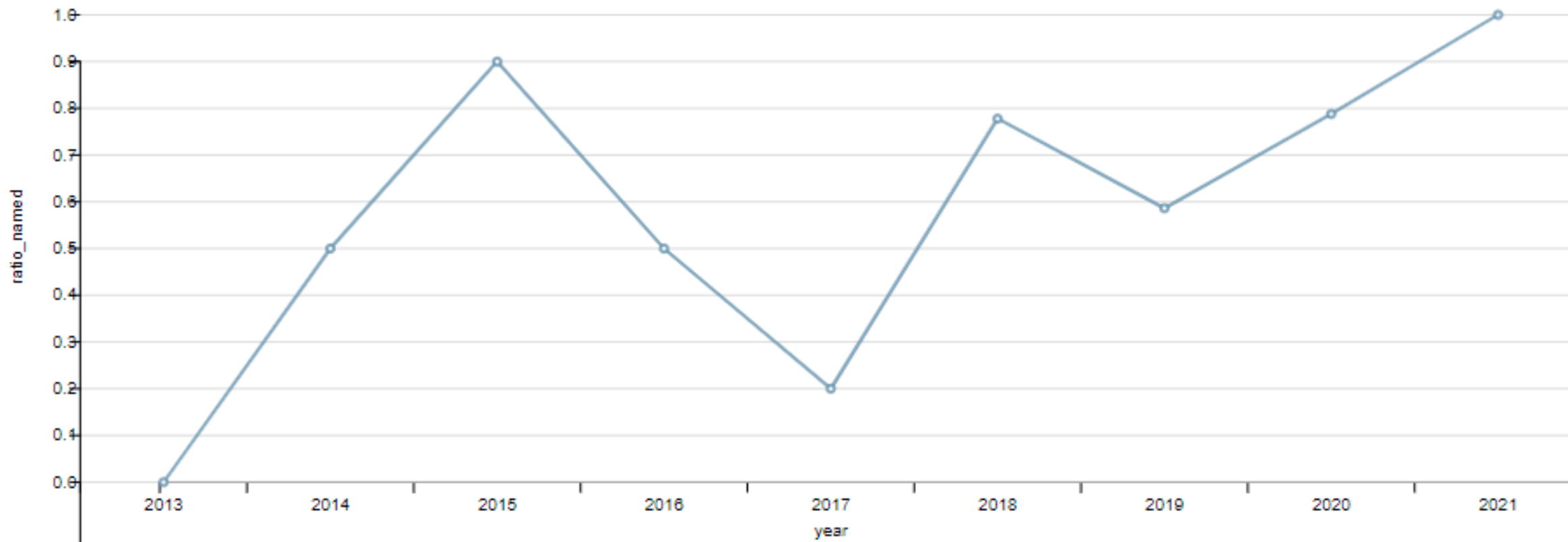
- Multiple peer reviews
- Reliability
- Quality check and control
- Elimination of Declaration of Bias

## Peer Reviewer Criteria

- Contact information
- Expertise in relevant field
- Willing to state any conflicts of interests
- Not be part of the editorial board

# Peer Review Transparency

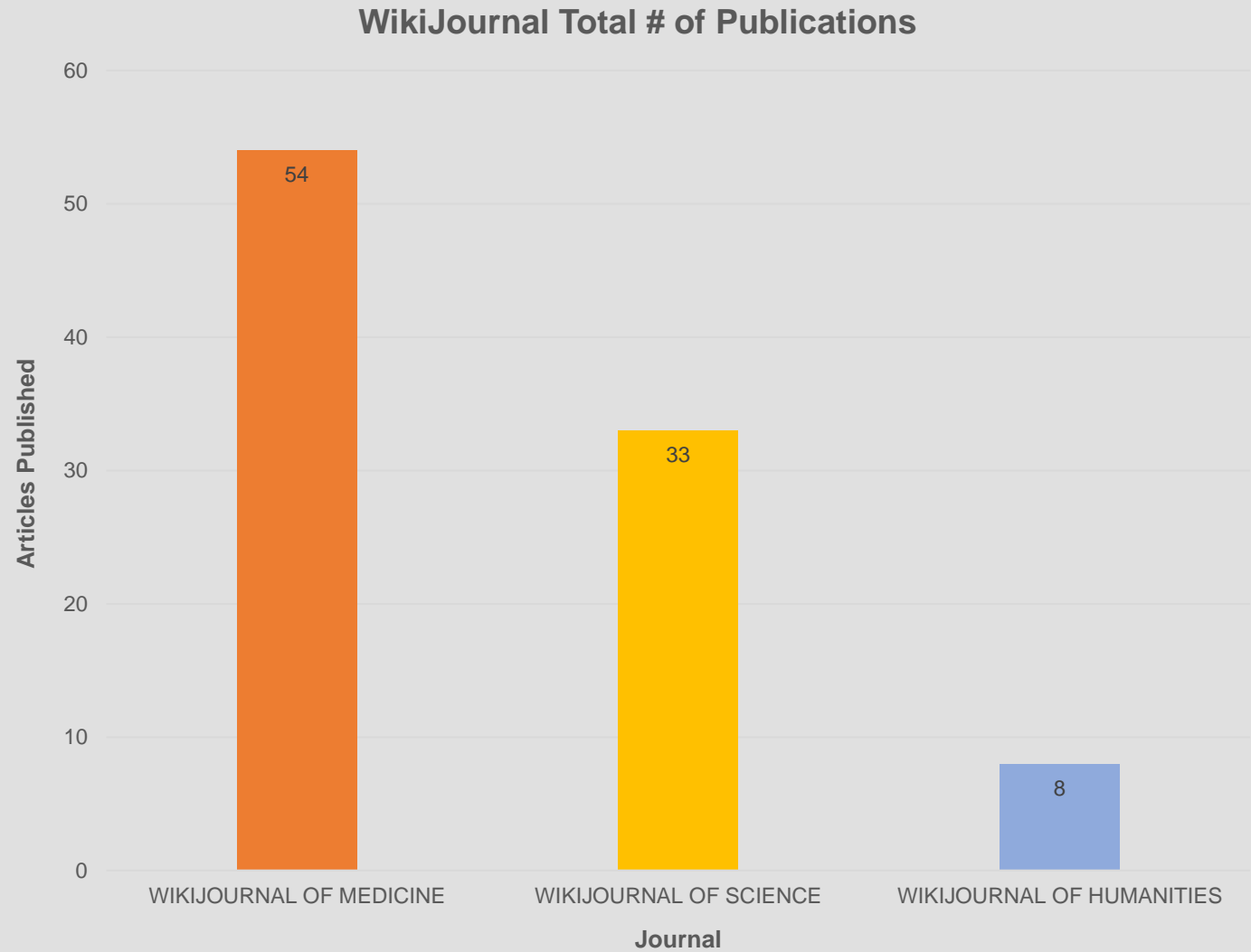
- Peer reviewer comments and authors responses public
- Majority of peer reviewers agree to open identities
- Anonymous peer reviewers have fields of expertise listed



# Current and Future of WikiJournal



# Publications



# This year...

- We published:

- 5 articles in medicine
- 3 articles in science
- 1 article in humanities



# Digital Object Identifier (DOI)

- Number represents readers who came from academic channels
- From September 2022:
  - Monthly average: 13,000
  - Average # of readers/month per journal article:
    - Medicine: 117
    - Science: 191
    - Humanities: 36



# Citations as of November 1<sup>st</sup> 2023

Journal	Total citations	Average
Medicine	336	5.51
Science	64	1.83
Humanities	1	0.11

Data by Dimensions

- Average article citations vary by field
- Citation tracking tools have different coverage
  - Metrics don't reflect citations in book chapters, conference proceedings and theses

# Publishing Observations

Medical images received high number of citations

Top 3 articles with highest citations in Medicine are medical galleries and diagrams; and also top 4 out of 6

This highlights the need for freely licensed medical images in journals

Citation rates reflect similar trends to amount of coverage on Wikipedia

We published first non-English article in 2020

Topic: Electronic technologies in Nepalese agriculture

Published in both English and Nepali

# Expansion of WikiJournals

Increase contributors

Authors

Peer reviewers – high priority

Integration into university curriculum

Promotion of journal

Encouraging contribution

Creation of Wiki Hosting Platform

Increase visibility

Specialized extensions

Journal Partnerships

Co-publishing in specialist Journals

Increase reputability and visibility

 **WikiJournal of Science**  
Open Access - Multidisciplinary Peer-Reviewed

**W**ikipedia-integrated

**P**ublic peer-review

**O**pen Access

**S** free to publish

**Info:** for research professionals aiming to:  
Advance professional expertise, education, and impact  
Improve public understanding of science  
Be awarded for expert input to open access projects  
Contribute to the world's most used encyclopedia

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# Wikimedia Journal Hosting Platform Benefits



## Site identity and branding

[journals.wikimedia.org](https://journals.wikimedia.org) / [wikijournals.org](https://wikijournals.org) / [journals.wiki](https://journals.wiki) / [j.wiki](https://j.wiki)  
Specialised sidebar items and logos  
CC BY default license



## Automation of repetitive tasks

Assigning DOIs  
Copying accepted articles into latest volume & issue  
Formatting PDFs



## Specialised extensions

Annotating history to mark version as published  
Automated email reminders to reviewers  
Wikidata integration to track peer reviews submitted to talkpages



# How can you contribute?

Publish

Publish an article – credentials are not required

Review

Peer Reviewing – Requires expertise in the subject

Volunteer

Join the editorial board – share your ideas about journal management

# Support our proposal on Meta to become a sister project



[content page](#) [discussion](#) [edit](#) [edit source](#) [history](#) [move](#) [unwatch](#) [subscribe](#)

## Proposal: WikiJournal as a sister project

From Meta, a Wikimedia project coordination wiki  
(Redirected from [WikiJournal](#))



### WikiJournal User Group

Open access • Publication charge free • Public peer review • Wikipedia-integrated

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[More resources](#)

#### Contents [\[hide\]](#)

- 1 Scenario
- 2 Possible solution
  - 2.1 Background structure
  - 2.2 Journal contents
- 3 Present situation
- 4 Proposal
  - 4.1 Why separate WikiProject
- 5 Discussion
  - 5.1 Support
  - 5.2 Oppose

This is a **proposal for a new Wikimedia sister project.**



Proposed logo matches current WMF sister project styles uses 2014 WMF colour palette [\[palette\]](#)



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beyond the web

# Take Away Points

## Open Access

All published articles are openly accessible under a free Creative Commons license

## Free to publish

Fully non-profit, run by volunteers and foundation-supported so have no publication charges of any kind

## Public peer-review

All article peer reviews are published and publicly accessible

## Wikipedia-integrated

Appropriate material is integrated into Wikipedia for added reach and exposure



# Questions



Website: [wikij.org](http://wikij.org)

Contact: [info@wikij.org](mailto:info@wikij.org)