



Strengthening Wikimedia Collaborations with and for Open Science

Alice Kibombo, Daniel Mietchen, Eric Luth,
Melissa Hagemann & Stephen Wyber

WIKIMANIA
KATOWICE

- **Welcome:** Stephen Wyber
- **Synergies with Wikimedia:**
Daniel Mietchen
- **Intro to Open Access:** Melissa Hagemann
- **Intro to Open Science:** Daniel
- **Challenges:** Alice Kibombo & Melissa
- **Collaborations:** Eric Luth & Stephen

Overview of Session

What Success Looks Like

- **You:**
 - Refresh your knowledge about the Open Science movement and its goals
 - Reaffirm your understanding of why Open Science supports the goals of the Wiki movement
 - Have the desire to work with Open Science advocates and practical plans for
- **We:**
 - Know how we can support stronger partnerships between the Wiki movement and Open Science advocates around the world

Who we are...

- Stephen: [Knowledge Rights 21](#)
- Melissa:
 - [BOAI Org](#)
 - [Open Future Foundation](#)
- [Daniel](#):
 - [Wikidata](#) / [WikiCite](#) / [Scholia](#)
 - [FIZ Karlsruhe](#) / [KGI4NFDI](#)
 - [zbMATH Open](#) / [MaRDI](#)
 - [RIO Journal](#) / [iNaturalist](#)
- Alice: Wikimedia Foundation
- Eric: [Wikimedia Sweden](#)

- Right to read (and mine)
 - For Wikimedia editors
 - and their tools
 - For Wikimedia readers
 - and their tools
- Right to reuse
 - open licenses
 - incl. right to adapt
 - (fair use)
- Right to participate
- Papers, datasets, software ...

Synergies with Wikimedia (theory)

Synergies with Wikimedia (practice)

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- Papers, datasets, software ...
- Scholarly profiles

⇒ ([Wikipedia Library](#))

⇒ [Open Access Media Importer](#)

⇒ [OA Signalling Project](#)

⇒ [WikiCite](#)

⇒ OA Signalling Project / WikiCite

⇒ OA Signalling Project / WikiCite

⇒ OA Signalling Project / WikiCite

⇒ ?

⇒ WikiCite / WikiProjects (e.g. )

⇒ WikiCite / WikiProjects





⇒ [Scholia](#) (based on WikiCite)

- [OA Signalling Project](#)
- [WikiProject Source Metadata](#)

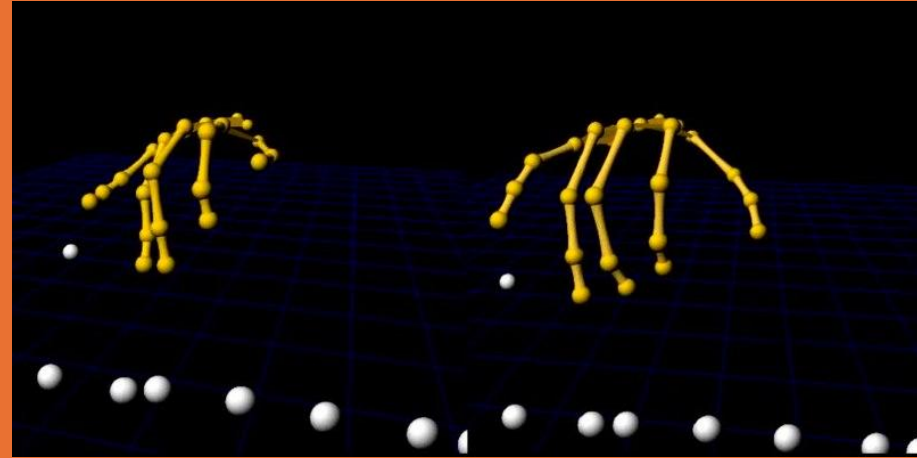
- [Template: Citation](#)

25. [^] ^a ^b White NJ (2011). "Determinants of relapse periodicity in *Plasmodium vivax* malaria" [↗](#). *Malaria Journal* **10**: 297. doi:10.1186/1475-2875-10-297 [↗](#). PMC 3228849 [↗](#). PMID 21989376 [↗](#).   CC-BY [↗](#)  full text  media  metadata

Four access levels can be used:

- [access indicator for named identifiers](#):
 -  **free** : the source is free to read for anyone
- [access indicators for url-holding parameters](#):
 -  **registration** : a free registration with the provider is required to access the source, even if a limited preview, abstract or review may still be available without registration
 -  **limited** : free access is subject to limited trial and a subscription is normally required
 -  **subscription** : the source is only accessible via a paid subscription with the provider of the source ("paywall")

- [Open Access Media Importer](#)
- 3 main steps
 - check article for license
 - check article for media
 - upload files to Commons
- 36k file uploads to Wikimedia Commons between 2010 and 2018
- 2k of these are used on 8k wiki pages
- over 500 million page views



- [Original paper in PLOS ONE](#)
- [XML version](#) on [PMC](#)
- [File copy on Commons](#)
- [used](#) on over 20 Wikipedias, including in Polish [Przechwytywanie ruchu](#) and [Pianista](#)

- [WikiCite](#)
- [Scholia](#)



Scholia has a profile for
Cherie Chu-Fuluifaga
(Q115650385).

Supports the following statement(s)

Statements in Wikidata supported by references to this work. Only a maximum of around 2000 statements are shown.

Search:

Item	Property	Value
interval	part of	preordered set
closed interval	defining formula	$[a, b] = \{x \in X: a \leq x \leq b\}$

Wikidata Query Service

Wikipedia mentions

Search:

Title	Wikipedia	Item	Item description
Finger	English Wikipedia	finger	one of usually five articulated digits at the end of the tetrapod hand
Finger tracking	English Wikipedia	finger tracking	high-resolution technique in gesture recognition and image processing
Motion capture	English Wikipedia	motion capture	tracking procedure which makes it possible to detect any type of movement and convert it to a digital format
Pianist	English Wikipedia	pianist	musician who plays the piano

Two new species of fossil *Leggadina* (Rodentia: Muridae) from Northwestern Queensland (Q28646672)

Search:

Description	Value
Title	Two new species of fossil <i>Leggadina</i> (Rodentia: Muridae) from Northwestern Queensland
Type	scholarly article
Language	English
Published in	PeerJ
Publication date	2015
Topics	Rodentia, species nova, Muridae, fossil, <i>Leggadina</i>
DOI	10.7717/PEERJ.1088

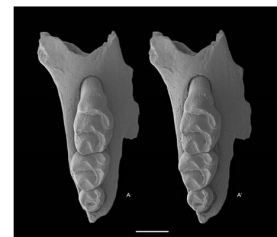
Wikidata Query Service

work: data:spand

Showing 1 to 7 of 7 entries

Table of Contents

- List of authors
- Topic scores
- Timeline
- Related works
 - Related works from co-citation analysis
 - Related works from knowledge graph embedding
- Citations
 - Citations to the work
 - Cited works
 - Authors of cited works
 - Citation graph
 - Citations per year
- Wikipedia mentions
- Supports the following statement(s)



Authors

Show entries

Katowice researchers using ImageJ

Search:

Works	Author	Author description	Example work
7	Dorota Kwiatkowska	researcher (ORCID 0000-0002-0102-6988)	FibrilTool, an ImageJ plug-in to quantify fibrillar structures in raw microscopy images
4	Anna Mrozek-Wilczkiewicz	Polish chemist and pharmaceutical scientist	Iron Chelators and Exogenous Photosensitizers. Synergy through Oxidative Stress Gene Expression.
4	Agata Daszkowska-Golec	Polish biologist	Mutation in HvCBP20 (Cap Binding Protein 20) Adapts Barley to Drought Stress at Phenotypic and Transcriptomic Levels.
4	Iwona Szarejko	Polish biologist	Mutation in HvCBP20 (Cap Binding Protein 20) Adapts Barley to Drought Stress at Phenotypic and Transcriptomic Levels.
4	Katarzyna Malarz	Polish chemist and pharmaceutical	Iron Chelators and Exogenous Photosensitizers. Synergy through Oxidative Stress

- Community science
- WikiProject Biodiversity

Category:iNaturalist images reviewed by iNaturalistReviewBot

This category is used for **administration or maintenance of Wikimedia Commons** (purge this page's cache).

This category is *hidden* and not shown on its member pages unless the appropriate user preference is set.

Random in this category

Files are added **automatically** to this category by placing the template `{{iNaturalistreview}}` on their description pages. Do **not add files** to this category manually!

Maintenance: Search for misplaced files using [PetScan](#) (will not work on categories shared by many templates).

Media in category "iNaturalist images reviewed by iNaturalistReviewBot"

The following 200 files are in this category, out of 4,853 total.

(previous page) (next page)



17021818 Sweetbay silkmoth Callosamia securifera.jpg
 1,017 × 1,041 · 251 KB

Aroniella rawlingsi.jpg
 2,048 × 1,536 · 1,02 MB

Abatia parviflorajpg
 2,048 × 1,536 · 1,26 MB

Abronia montecristoi
 55841718.jpg
 2,048 × 1,536 · 1,26 MB

Acacia cyclops
 63857162.jpg
 2,048 × 1,536 · 2,16 MB

A WIKI APPROACH TO COLLECTING, CURATING AND MANAGING CITIZEN SCIENCE DATA

Daniel Mietchen
Data Science Institute, University of Virginia, daniel.mietchen@virginia.edu, @EvoMRI

Wikimedia-based communities

Over 200 organizations have been founded around the globe to support Wikimedia-based collaboration in specific social, regional, thematic or related contexts.

Participatory science

The key aspect of participatory science – often referred to as citizen science, though that term is problematic – is the participation of volunteers in research projects. In principle, this can happen at any stage of the research process.

Wikimedia projects

Wikimedia projects include Wikipedia and its sister projects, which are loosely-organized online information channels, i.e. Wikisource for the encyclopedia, Wikibooks for books, Wikisource Commons for media, Wikidata for data, Wikisource for source materials, Wikisource for travel guides and more. All of these projects use the MediaWiki software, most of them exist in multiple language versions, and they collaborate in various ways across projects, languages, disciplines, geographies, etc.

Wikimedia projects as citizen science platforms

Beyond writing about research, Wikimedia projects can in principle be used within any open research project that use in a citizen science project manner in most contexts, e.g. for the collaborative identification of biological or natural species, historical-geographical or linguistic as well as for transcribing or translating documents or any other historic maps.

Examples of participatory science on Wikimedia platforms

Wikidata (https://www.wikidata.org) is a multilingual collaborative platform that stores structured data (machine-readable information). It is tightly integrated with all language versions of Wikipedia and its sister sites, and it collects, stores and provides open (read-only) domain data across all areas of knowledge from all around the world. Wikidata serves the requirements of the FAIR principles to make data *findable*, *accessible*, *interoperable* and *reusable*, and it allows people to collaborate who do not share a common language. With about 20,000 volunteer contributors each month that contribute openly, Wikidata stands open science and citizen science exemplars.

The latest contributions are added by hundreds of automated or semi-automated tools that perform repetitive tasks or work based on community agreed standards. Together, they have aggregated over 1 billion RDF triples on the platform that can be queried via a dedicated SPARQL endpoint and other means, which aids in quality control of the database content and facilitates knowledge discovery within the corpus.

Thanks to a combination of numerous examples, help pages, tutorials, user interface design and other publications, this platform is gradual to users across various skill levels for the SPARQL query language. This way, Wikidata also demonstrates access to and participation in the Semantic Web.

Collecting existing documentation of Set cultural heritage, later after the fire in the Ethnol National Museum

Documenting history, e.g. the urban depiction of a "Dachstein" village in 1906

The species of *Agropyron* was first discovered in Wikidata. Citations and journal references

Open-source open infrastructure for being Wikidata content to place without internet access

Wikibase as a participatory science project in digital curation

The software underlying Wikidata is Wikibase (https://wikibase.org/). It is open source and openly licensed, which allows anyone to run instance servers that are interoperable with Wikidata and other Wikibase instances. By default, Wikibase instances come with a SPARQL endpoint of their own that is modified after the Wikidata one.

Wikibase as a generic crowdsourcing platform

Examples of participatory science on Wikidata or Wikibase

Wikidata-based game

Mapping streets in the Netherlands in terms of the species they are named after

Results of a Wikidata SPARQL query for European starting pages, based on collaborative annotation of paintings

Request a query

Requesting a query to the SPARQL endpoint of the Wikidata, a Wikibase instance, displaying location from which Wikidata instance have used better

Community page for help with Wikidata SPARQL queries

Open Access

By **“open access”** to this literature, we mean its **free availability on the public internet**, permitting any users to read, download, copy, distribute, print, search, or link to the full texts of these articles.

Budapest Open Access Initiative, 2002

Open Access

To achieve **open access** to scholarly journal literature, we recommend two complementary strategies:

- I. Self-archiving/Repositories
- II. Open Access Journals
 - A. Free to read & publish in ([Diamond](#))
 - B. [Article Processing Charge/Read & Publish Agreements](#)

Budapest Open Access Initiative, 2002

20 years

- Almost 50% of research articles are OA
- Open Access Journals: 20,700
- Open Repositories: 5,600
- University OA Policies: 890
- Foundations, national governments
- COVID-19: 79% of journal articles were OA

BOAI20

“**Open Access** is not an end in itself, but a means to other ends, above all, to the **equity**, quality, usability, and sustainability of research.”

Open Science

(meant to include all fields of research, just like Polish [nauka](#) does)
⇒ Open research

“Open research is the concept of scientists sharing their research with the world as soon as they record it for themselves.”



Open Science

- ethics first
 - who benefits / is harmed
 - if research is (not) done/ shared
- sharing
 - whether to share
 - what (not) to share
 - why (not) share
 - when to share
 - how to share
- open when possible
 - free to read/ mine/ reuse/ adapt/ participate
- all around the research cycle
- essentially a wiki way of doing and sharing research

Challenges

- APC-based journals exclude authors for economic reasons and without regard to the quality and importance of their work.
- Read-and-publish agreements exacerbate existing inequalities in scholarly publishing.

Challenges

- The research assessment process is broken; does not serve the scholarly community.
- OA research is at risk of enclosure when hosted on closed, proprietary or commercial infrastructure.

Specific Challenges in the Global South

- Awareness raising
- Loss of sustainable publishing models.
- Barriers to publish in APC-based journals.
- Spread of Read-and-Publish agreements.

Collaborations against challenges

Poor law

- Unwaivable remuneration rights
- Leaving researchers with obligations, but no rights
- Loopholes!
- Lack of clarity around copyright ownership
- Restrictions on data access and sharing

Collaborations against challenges

Underlying challenges

- Open science crucial for successful research
- Who's talking on behalf of researchers?
- All parts of university and research sectors needed for advocacy

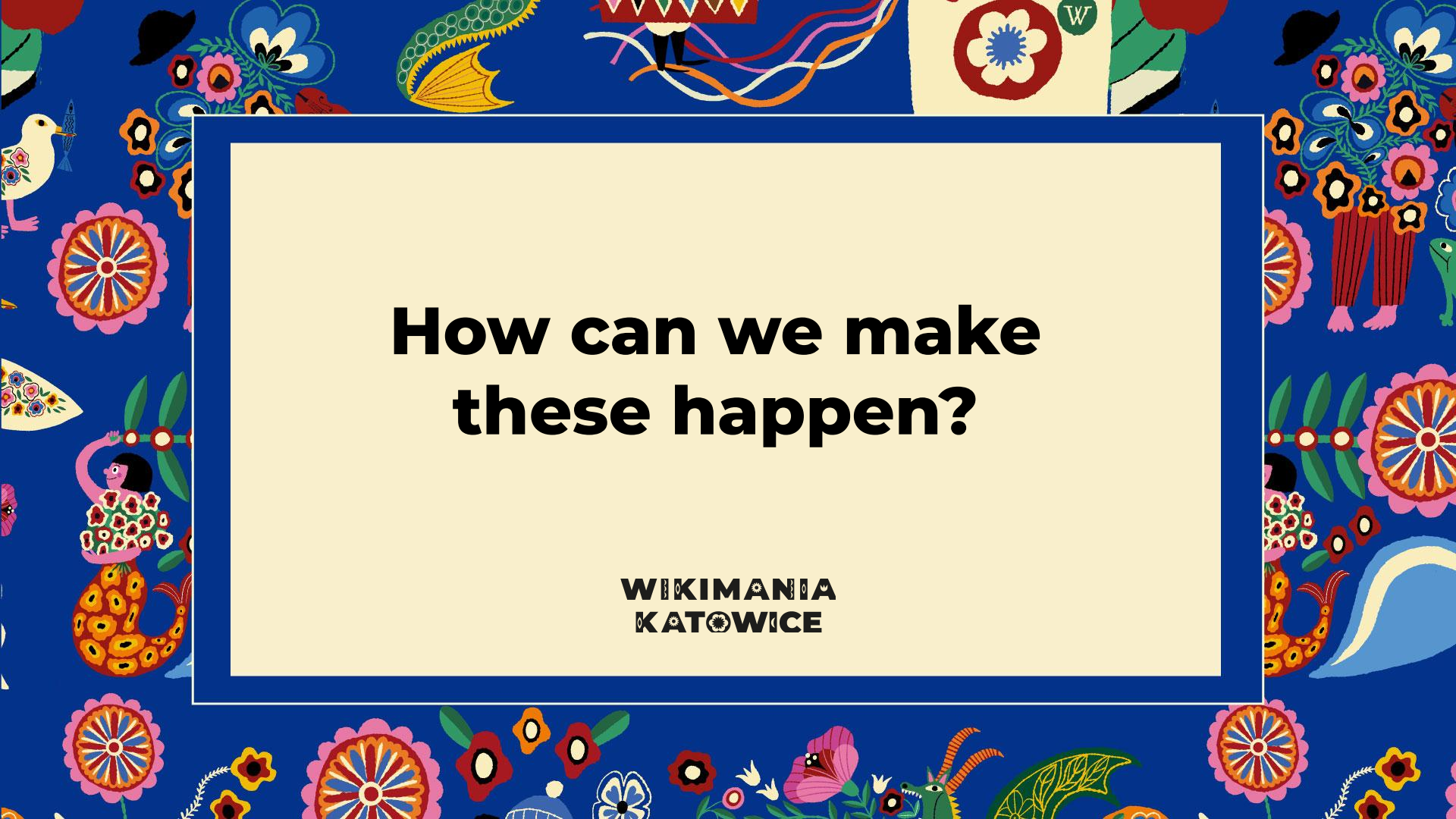
- Cross pollination of the two communities
- OA Signalling Project
- WikiJournals
- Policy
- Equitable development of Open Access

Collaborations



**What are the priority areas
for further collaborations?**

**WIKIMANIA
KATOWICE**



**How can we make
these happen?**

**WIKIMANIA
KATOWICE**

Let's collaborate!

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