



EOSC-Life has received funding from the European Union's Horizon 2020 programme under grant agreement number 824087.”

Open Access Publishing

@open_phytoliths,
slides on Zenodo: <https://doi.org/10.5281/zenodo.7669467>

Connect with us!

Open Phytoliths Community



Please join our Slack workspace here:

https://join.slack.com/t/openphytoliths/shared_invite/zt-1akxgco84-cz4Dii0Q5gXeb9J49UgYoQ



Join our mailing list: [complete this form](#).



Take a look at our NEW multi-lingual website!: [Open Phytoliths \(open-phytoliths.netlify.app\)](https://open-phytoliths.netlify.app)



We are also on twitter ([@open_phytoliths / Twitter](https://twitter.com/open_phytoliths)) and facebook ([Open Fitolitos | Facebook](https://facebook.com/Open Fitolitos))!

Live translation instructions

- Click the Interpretation button on the zoom bar at the bottom.
- Click on the language you want - Spanish or English

Instrucciones de traducción en vivo

- Haga clic en el botón Interpretación en la barra de zoom en la parte inferior.
- Haga clic en el idioma que desee: español o inglés.

Introductions

Dr Emma Karoune:

Research Associate at Historic England

- FAIR Phytoliths Project - PI
- International Committee on Open Phytolith Science - Chair

Open Researcher at The Alan Turing Institute

- Open access
- Open collaboration
- Reproducible workflows
- Data science education

Fellow

- Software Sustainability Institute
- ELIXIR-UK FAIR Data Fellow



Historic England



EOSC-Life



Association for
Environmental
Archaeology



International
Phytolith Society



Peer Community In
Archaeology

The
Alan Turing
Institute



Software
Sustainability
Institute



Introductions

Prof. Jennifer Bates

**Assistant Professor of Archaeological Science
at Seoul National University**

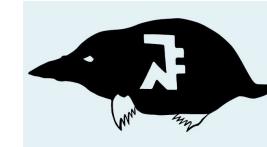
- Indica Project - PI
- LC6k Project KWG - PI
- Ashmounds Project - PI
- Archaeobotanical consultant - EHLTC, Ur, Farmana/Rojdi projects

Visiting Scholar

- UCSD

Research/teaching Areas

- South Asian pre/proto-history
- Archaeobotany
- Archaeological methods



International Committee on Open Phytolith Science (ICOPS)

Meet the ICOPS Team



Abraham
Dabengwa
ICOPS member



Carla
Lancelotti
ICOPS member,
ICREA Research
Professor



Celine
Kerfant
ICOPS member,
Research Associate



Doris Barboni
ICOPS member, IPS
President



Emma
Karoune
Chair of ICOPS



Javier Ruiz-
Pérez
ICOPS member,
Postdoctoral
Research Associate



Jennifer
Bates
ICOPS member,
Assistant Professor
of Archaeological
Science



Juan José
García-
Cranero
ICOPS member



Marco
Madella
ICOPS member



Maria
Gabriela
Musaubach
ICOPS member



Yong Ge
ICOPS member



Zachary C
Dunseth
ICOPS member



International
Phytolith Society

Countries

UK, Spain, USA, Argentina, India, South Africa, South Korea, China.

Affiliation

The Alan Turing Institute, Universitat Pompeu Fabra, Spanish National Research Council, French Institute Pondicherry, Brown University, National University of Jujuy, Seoul National University, University of the Witwatersrand, Texas A&M University, University of Chinese Academy of Sciences.

Code of conduct

Yes!/encouraged

- Show empathy and kindness toward others
- Be respectful of differing opinions, viewpoints, experiences and **technological choices**
- Give and gracefully accepting constructive feedback
- Take responsibility for mistakes and any impact on others, learn from the experience
- Taking breaks to recharge!

No harassment

- Verbal and text comments that reinforce social structures of domination related to gender, gender identity and expression, sexual orientation, ability, physical appearance, body size, race, age, religion or work experience.
- Use of sexual or discriminatory imagery, comments, or jokes
- Deliberate intimidation, disruption
- Unwelcome sexual attention
- Advocating for, or encouraging, any of the above behaviour

If the **Code of Conduct is violated you will be asked to stop or leave the space.**

Please contact us about any violations: Emma Karoune (ekaroune@googlemail.com), Celine Kerfant (celineemanuelle.kerfant@upf.edu).

Open Access Publishing

@open_phytoliths, slides on Zenodo: <https://doi.org/10.5281/zenodo.7669467>

What we are learning about in this workshop

Learning objectives

- To explain the difference between open access options.
- To demonstrate the range of research outputs that can be made open access.

Learning outcomes

- To understand the difference between open access options.
- To know the range of research outputs that can be made open access.

What we are doing in this workshop

1. Introduction to open access publishing
 - a. Types of open access publishing
 - b. Benefits of open access publishing
 - c. Examples of open access publishing journals and platforms
 - d. Types of outputs that can be published
2. Demonstrating open access publishing
 - a. Showing how a reproducible/fully open articles are published and all the different outputs that are linked to it and how to do this
3. Exercise - Discuss and explore open publishing giving examples of different articles that show how open publishing works.

Open access - what is it?

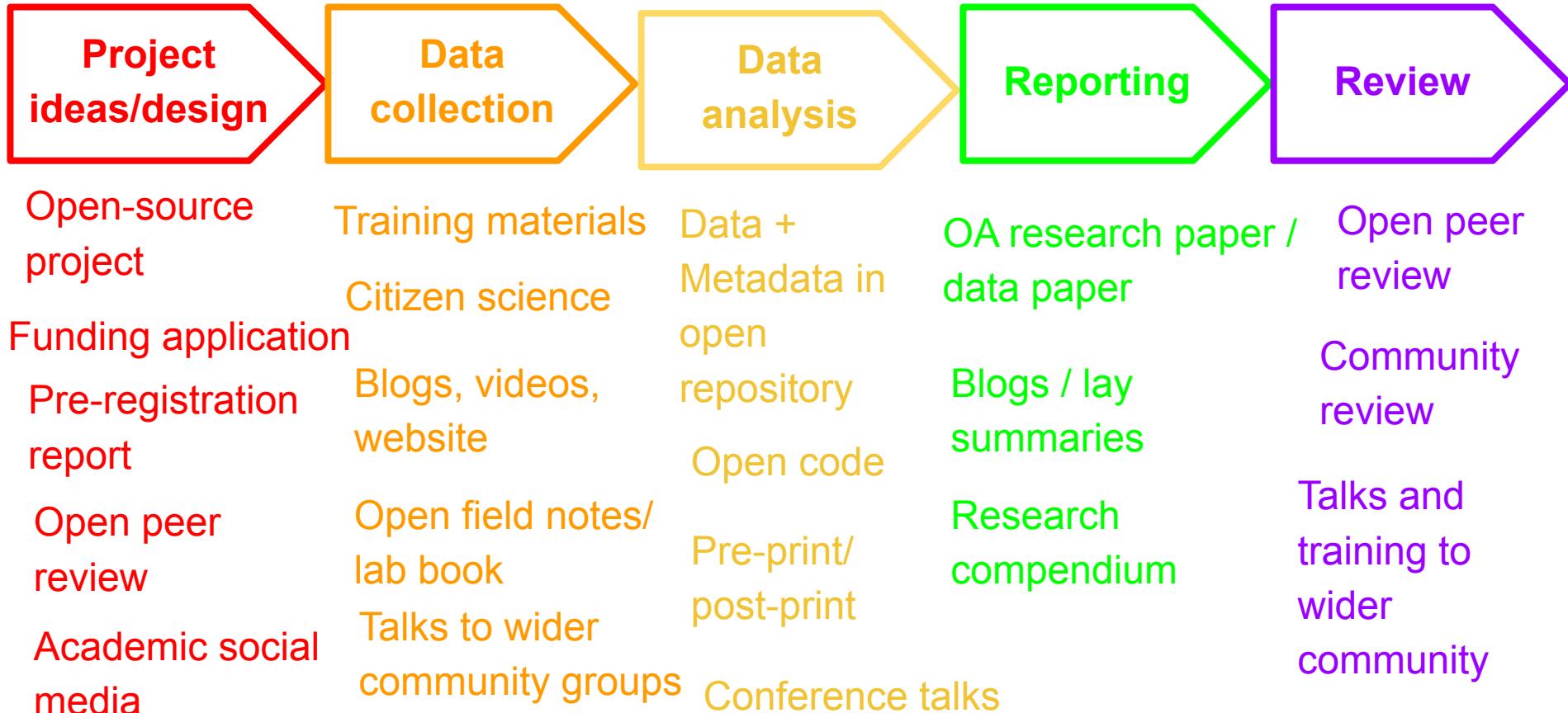
Open access (OA) = research outputs are distributed online, free of cost or other access barriers.

Gratis open access = immediate, permanent online access and free for all on the web.

Libre open access = free of charge to access, plus under open license (free to re-use).

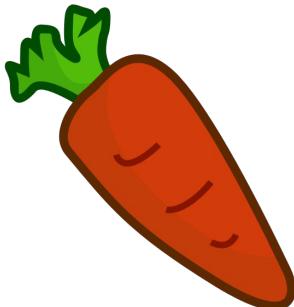
- Focus on peer reviewed research articles
- Also other publications types - books, conference papers, theses, research reports, and more.
- Other outputs too! - data, software, blogs, podcast, etc

Not only research articles!



Why Open access?

The carrots for increasing accessibility



Visibility and discoverability
Transparency -> Reproducibility

Validation -> research quality

Sustainability

Inclusivity

Diversity

Why Open access?

The sticks for increasing accessibility

Funders require open access

New! **Open access policies** of funders are increasingly requiring articles and other research outputs to be open access.

- UK Research and Innovation
- European Research Council
- National Science Foundation, USA
- Australian Research Council
- Open access India - draft policy

Do you know a policy from your country? - please share the link in our shared doc



Why Open access?

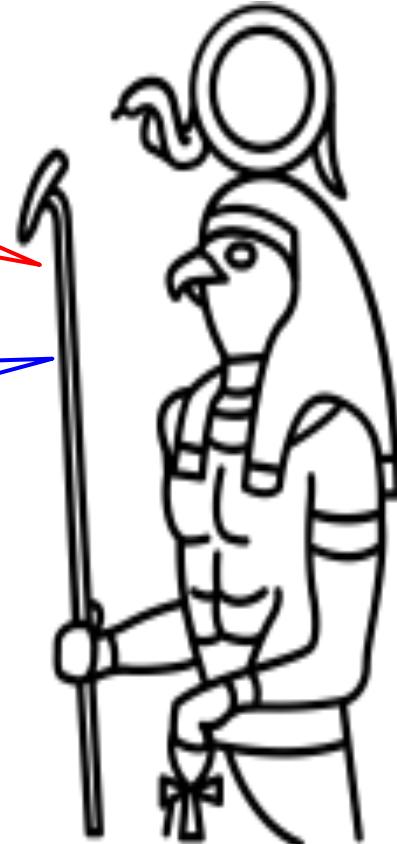
The sticks for increasing accessibility

Funders require open access

Institutions require open access

Do you have an institutional policy on open access?

- Historic England - [archives access policy](#)
- [Research integrity policy](#) - open communication of research



Why Open access?

The sticks for increasing accessibility

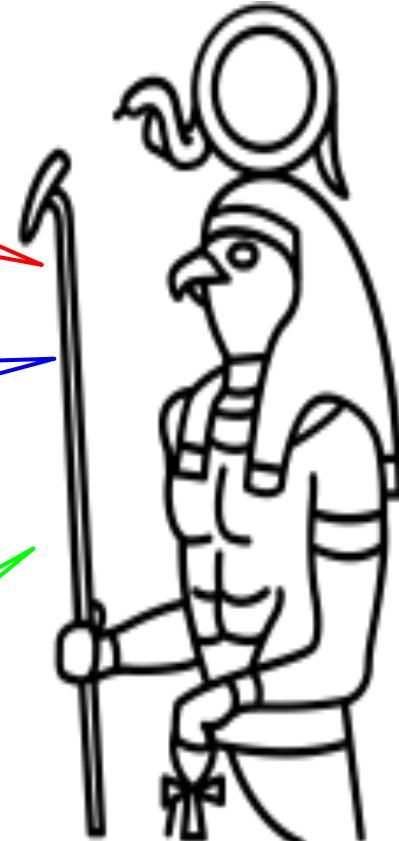
Some journals are now OA only & others are hybrid

- Check author requirements for data and code sharing
- Example from PLOS One - [data availability policy](#)

Funders require open access

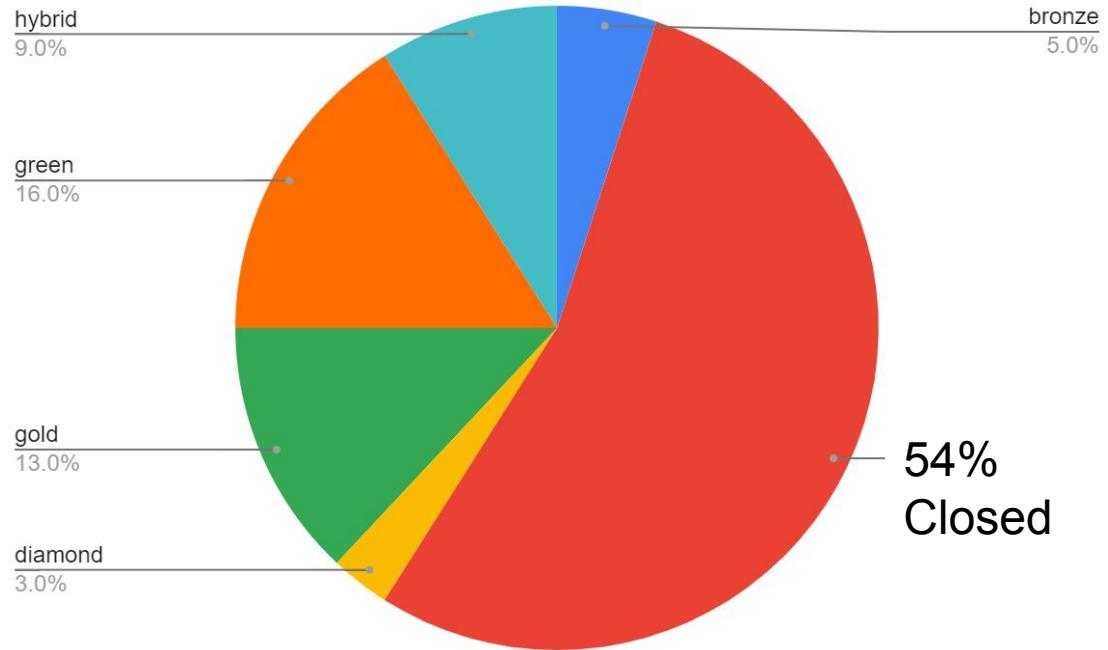
Institutions require open access

Journals policies



Why do phytolith researchers need to increase open access?

- Few of our publications are open access
- Most of our data is in articles or supplementary files
- Global community - not everyone can afford journal fees



All others here are some form of open access = 46%

Research paper

Sowing the Seeds of Future Research: Data Sharing, Citation and Reuse in Archaeobotany

Author: Lisa Lodwick [✉](#)

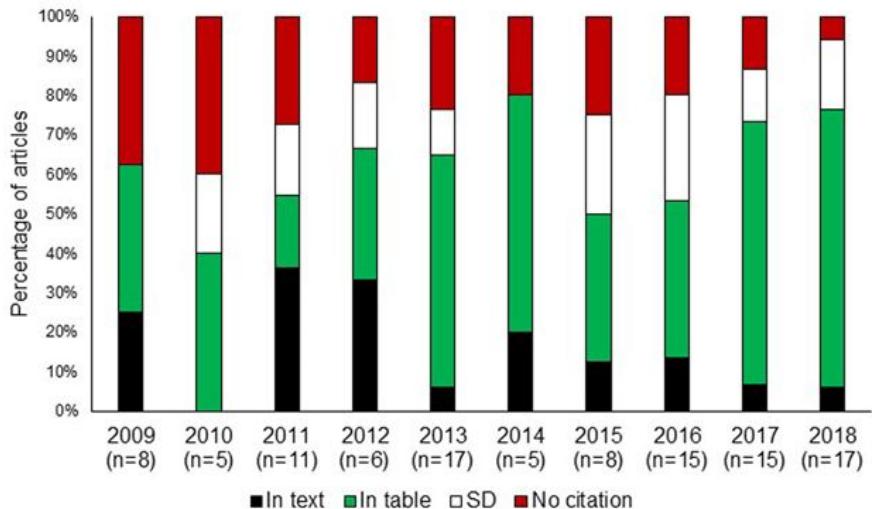


Chart showing the location of data citations in meta-analysis journal articles from 2009–2018.

How to Cite: Lodwick, L., 2019. Sowing the Seeds of Future Research: Data Sharing, Citation and Reuse in Archaeobotany. *Open Quaternary*, 5(1), p.7. DOI: <http://doi.org/10.5334/oq.62>

Figure reproduced under CC BY 4.0

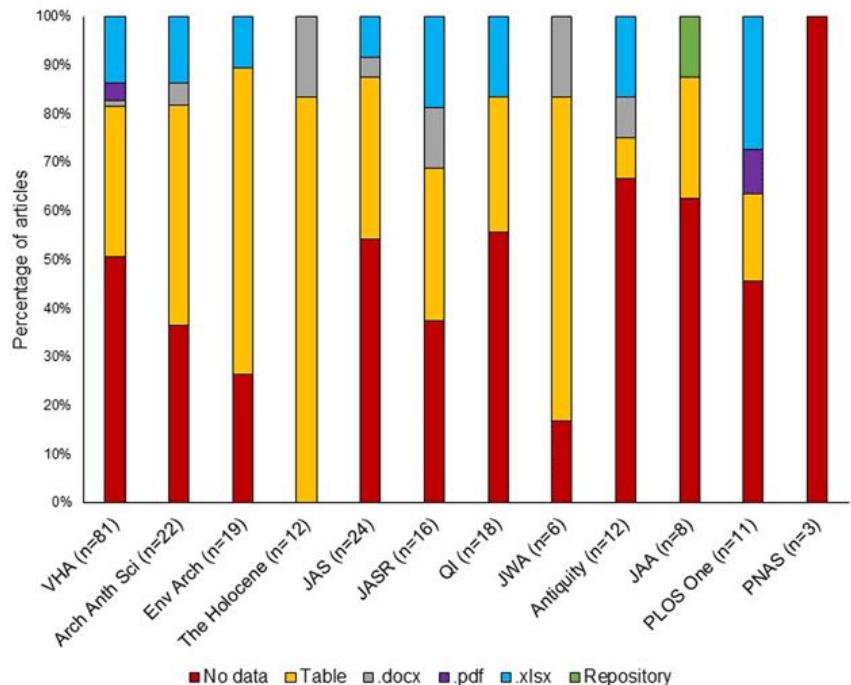


Chart showing the location of primary archaeobotanical data by journal in primary archaeobotanical data publications.

Benefits of increasing open access/open publishing

For our wider community

1. Increased quality of research
2. Increased collaboration in our community
3. More sustainable research for the next generation
4. More diverse and inclusive research community

For you

1. Increased citations of your published research articles.
2. Greater discoverability and enhanced visibility of your work.
3. Credit for all your work.

Higher citations for open access papers

PLOS ONE

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

Is the open access citation advantage real? A systematic review of the citation of open access and subscription-based articles

Allison Langham-Putrow  , Caitlin Bakker , Amy Riegelman 

Published: June 23, 2021 • <https://doi.org/10.1371/journal.pone.0253129>

76% of studies found Open Access Citation Advantage

<https://doi.org/10.1371/journal.pone.0253129>

More citations if you link data

RESEARCH ARTICLE

PLOS ONE

The citation advantage of linking publications to research data

Giovanni Colavizza^{1,2}, Iain Hrynaszkiewicz^{3,4}, Isla Staden^{1,5}, Kirstie Whitaker^{1,6},
Barbara McGillivray^{1,6*}

25% higher citation impact for papers that
include a link to data in a repository

Types of Open Access

Type	Open where?	When?	Who pays?
Gold	Publication/ Journal	Immediately on publication	Author - funder/institution
Green	Open repository	Immediate	Free
Bronze (restricted re-use)	Publication/ Journal	Embargoed or immediately	Author - funder/institution
Diamond	Publication/ Journal	Immediately	Professional society
Platinum	Publication/ Journal	Immediately	Institution or funder
Black	Social media/Sci-hub	Immediately	Free but illegal

How can you publish a gold open access journal article?

- Pay Article Processing Charge
- Include cost on funding
- Ask your institution for funds
- Some Institutions have publisher deals for Gold OA
- Shop around for the best deal!
- Ask for a fee waiver
- Apply for a grant



Diamond and Platinum open access publishing

This is a good option if you can't pay/fund gold open access.

Journals are supported by institutions or professional bodies to make them open access for authors and readers.

Some examples:

- **Documenta Praehistorica** -
<https://journals.uni-lj.si/DocumentaPraehistorica/index>
- **Journal of Indo-Pacific Archaeology** -
<https://journals.lib.washington.edu/index.php/JIPA/index>

Do you know any more? Share them in our shared document.

Green open access publishing

It's completely free!

What?

- Pre-print
- Post-print

Where?

- Pre-print server
- Open repository



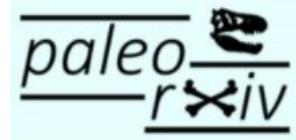
Check: If the journal allows it

Must not be journal final version



Different ways of making your outputs accessible

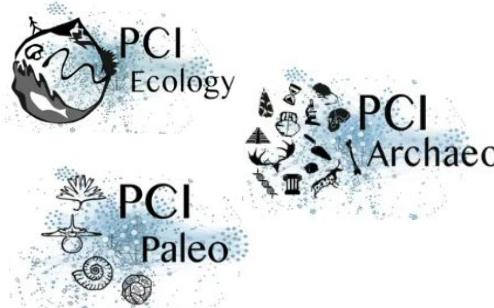
Pre-print servers



Open repositories

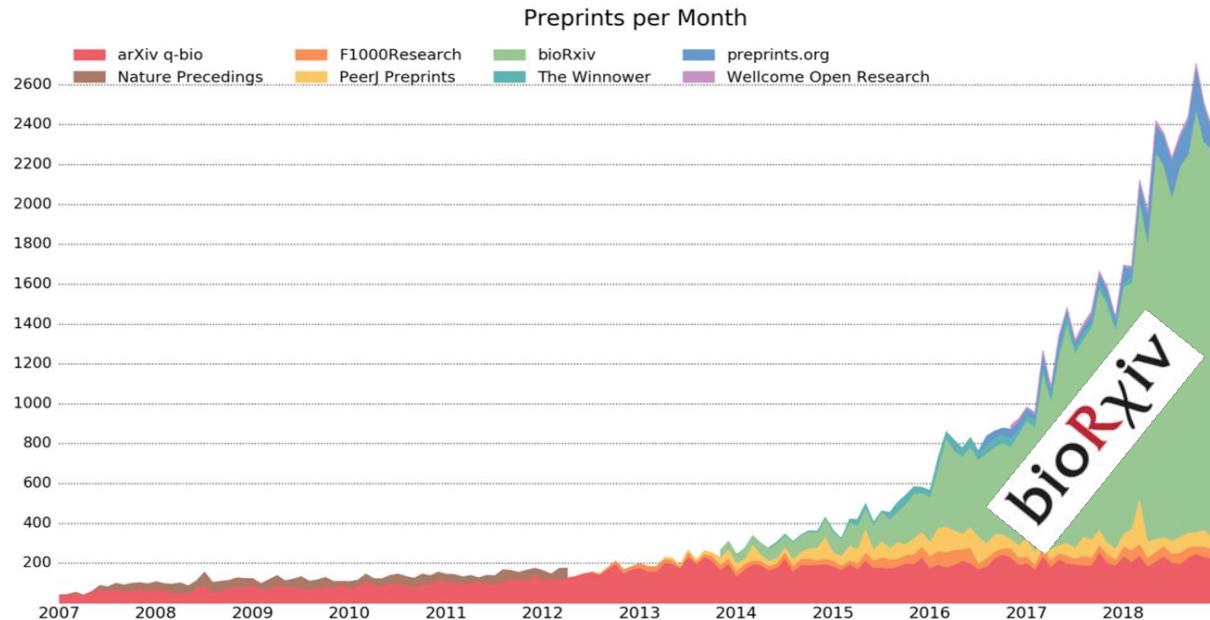


Peer review services



Pre-prints - new way to publish research quickly

- Has become very popular in many disciplines
- Quick way to get your research out there
- **Problem** = no peer review
- Although most pre-prints are submitted to journals



New non-journal peer review systems

- Through funder platforms - Open Research Europe, Wellcome Open Research
- Free for those funded by organisation
- Uses F1000
- Open review
- Open data & code

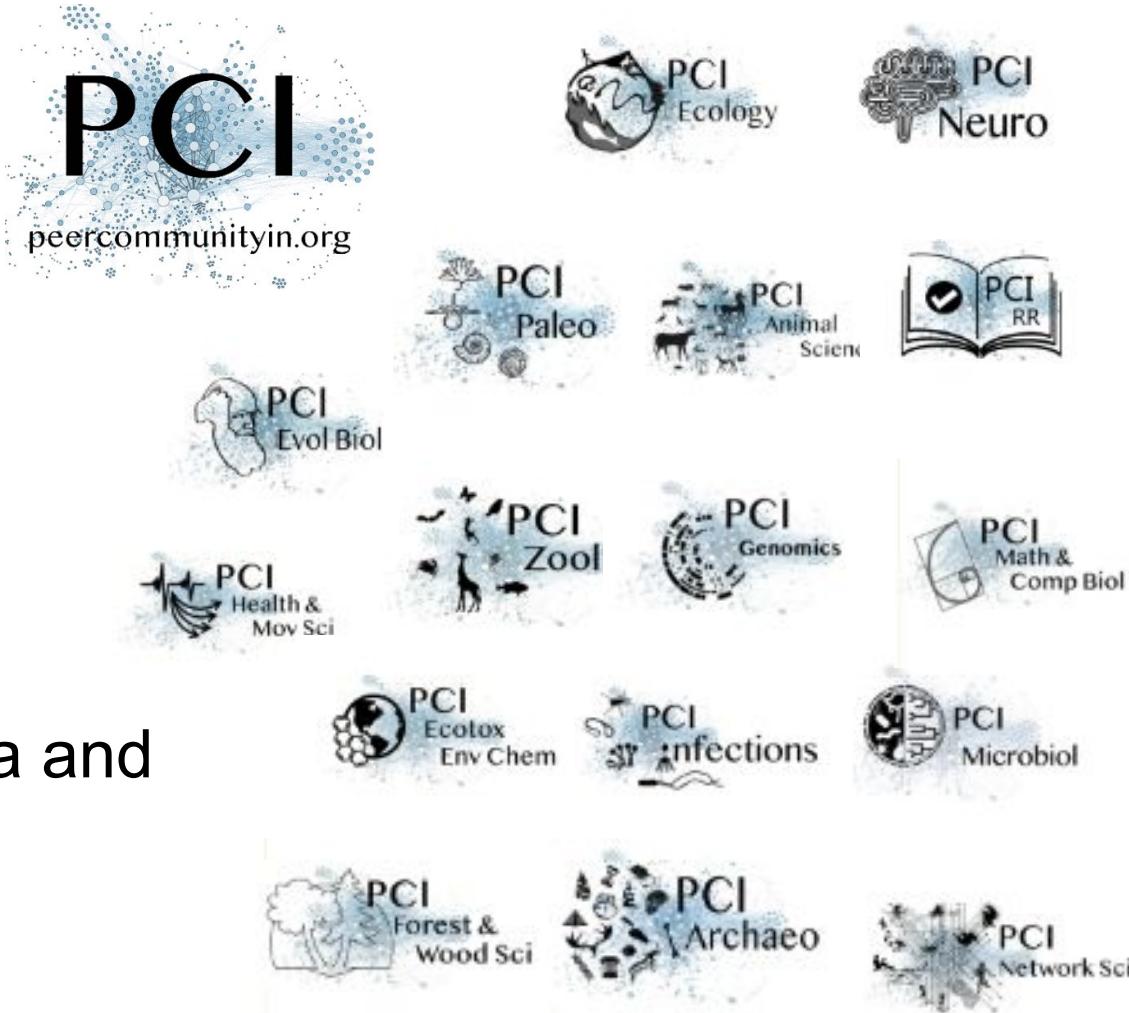
The image displays two screenshots of research publishing platforms. The top screenshot shows the 'Open Research Europe' homepage, featuring the European Commission logo, a search bar, and a banner for 'Rapid & Transparent Publishing'. It highlights fast publication and open peer review for research from Horizon 2020, Horizon Europe, and Euratom funding across all subject areas. A 'Submit your research' button is visible, along with links to 'Subject Areas' (Agricultural and veterinary sciences, Engineering and technology, Humanities and the arts, Medical and health sciences, Natural sciences, Social sciences) and 'Browse all'.

The bottom screenshot shows the 'Wellcome Open Research' homepage, featuring a teal header with the Wellcome logo and a banner for 'Rapid & Transparent Publishing'. It describes a new way for Wellcome-funded researchers to rapidly publish any results they think are worth sharing. Buttons for 'SUBMIT YOUR RESEARCH' and 'BROWSE ARTICLES' are present, along with a photograph of researchers in a lab. The F1000 logo is also visible at the bottom.

Peer Community In

It creates a community of researchers to evaluate preprints.

- 16 different domains
- Free for authors and readers
- Has to have open data and open code
- Open review

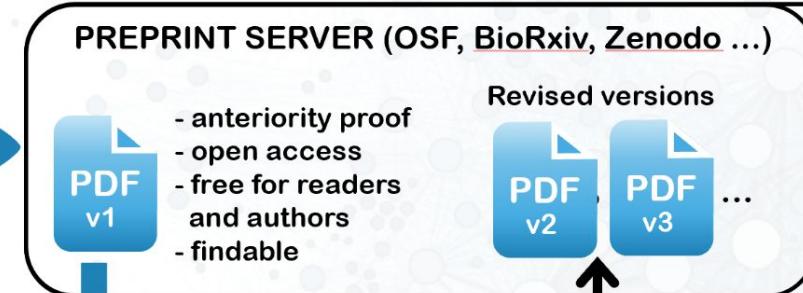




You're proud of your manuscript.
Instead of, or before, submitting it
to a journal,

you first
deposit it
on a preprint
server

1



Recommended,
peer-reviewed preprint

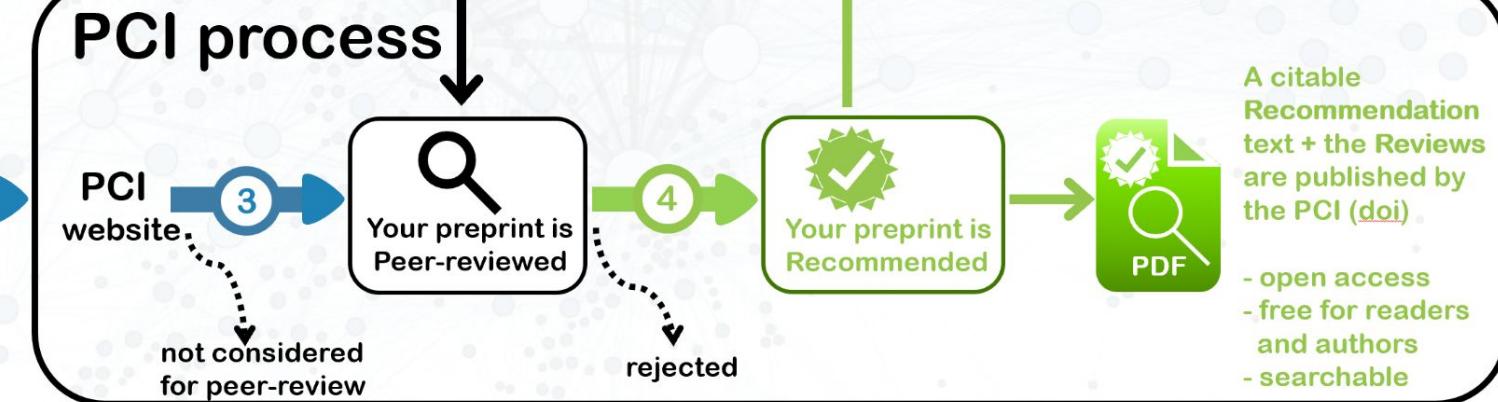


It becomes a valid & citable final article
AND
can still be submitted to a journal

5

you then
submit it to
a PCI.

2



At the end of the peer review process

PCI Archaeology

Recommendation

Share Tweet

Printable page

Three levels of reproducible workflow remove barriers for archaeologists and increase accessibility

Ben Marwick based on reviews by Sam Leggett, Cyler Conrad, Cheng Liu and Lisa Lodwick

3 A recommendation of:

 Removing Barriers to Reproducible Research in Archaeology
Emma Karoune and Esther Plomp
(2022), Zenodo, 7320029, ver. 5 peer-reviewed and recommended by Peer Community in Archaeology.
<https://doi.org/10.5281/zenodo.7320029>
[READ PREPRINT IN PREPRINT SERVER](#)

23

Abstract

Submission: posted 07 June 2022
Recommendation: posted 21 November 2022, validated 21 November 2022

Recommendation

Over the last decade, a small but growing community of archaeologists, from a diversity of intellectual and demographic backgrounds, have been striving for computational reproducibility in their published research. In their survey of the accomplishments of this thriving community, Emma Karoune and Esther Plomp (2022) analyzed the wide variety of approaches researchers have taken to enhance the reproducibility of their research. A key contribution of this paper is their excellent synthesis of diverse approaches into three levels of increasing complexity. This is helpful because it provides multiple entry points for researchers new to the challenge of fortifying their research. Many researchers assume that computational reproducibility is only achievable if they have a high degree of technical skill

November 21, 2022

Preprint Open Access

Removing Barriers to Reproducible Research in Archaeology

Karoune, Emma; Plomp, Esther

Reproducible research is being implemented at different speeds in different disciplines, and Archaeology is at the start of this journey. Reproducibility is the practice of reanalysing data by taking the same steps and producing the same or similar results. Enabling reproducibility is an important step to ensure research quality and validate interpretations. There are currently many barriers to moving towards reproducible research such as the skill level of researchers in the practices, software and infrastructure needed to do reproducible research and concerns relating to opening up research such as how to share sensitive data.

In this article, we seek to introduce reproducible research in an understandable manner so that archaeologists can learn where and how to start improving the reproducibility of their research. We describe what reproducible archaeological research can look like and propose three different computational skill levels of reproducible workflows with examples. Finally, in an extensive appendix, we address common questions about reproducible research to remove the stigma about these issues and suggest ways to overcome them.

This article has been reviewed and recommended by PCI Archaeology.

Preview

Page: 1 of 34 + Automatic Zoom

 Peer Community In Archaeology

RESEARCH ARTICLE

Open Access
Open Peer Review

Removing Barriers to Reproducible Research in Archaeology

Emma Karoune^{1,2,3*} and Esther Plomp^{3,4}

Files (1.5 MB)

<https://doi.org/10.5281/zenodo.7320029>



Indexed in
OpenAIRE

Publication date:
November 21, 2022
DOI:
[DOI 10.5281/zenodo.7320029](#)
Keyword(s):
Reproducibility, Archaeology, Open Research
Grants:
European Commission:
• EOSC-Life - Providing an open collaborative space for digital biology in Europe (824087)
Communities:
Open Phytoliths Community
License (for files):
[Creative Commons Attribution 4.0 International](#)

Versions

Version v5 10.5281/zenodo.7320029	Nov 21, 2022
Version v4 10.5281/zenodo.7256954	Oct 22, 2022
Version v3 10.5281/zenodo.7239193	Oct 22, 2022

If you don't have access to journal articles

- Unpaywall - <https://unpaywall.org/>
- Open access button - <https://openaccessbutton.org/>
- Research gate - to request articles
- Email authors or other academics
- Sci-hub



Questions????

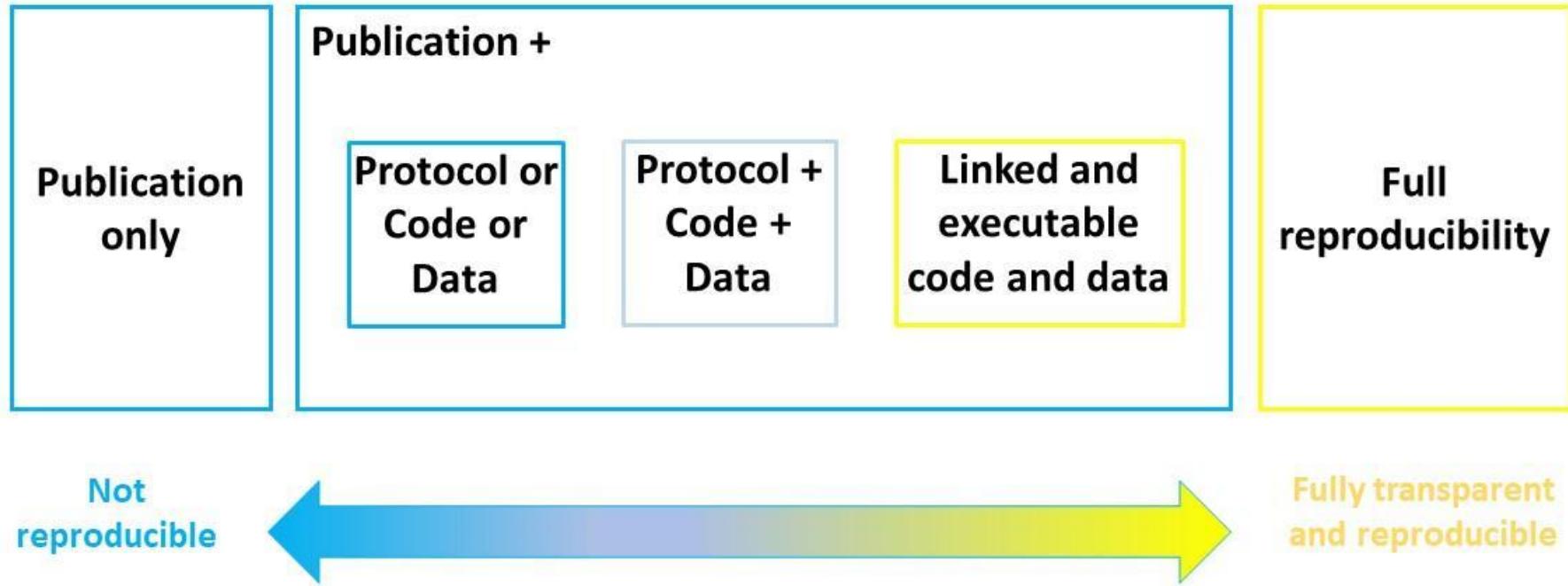
Please put your hand up or write your question in the chat or shared document.



Demonstration



Moving towards open and accessible research



An adapted reproducible spectrum (Peng 2011) with the addition of protocols.

Open Publishing Guide

<https://doi.org/10.5281/zenodo.6803489>

zenodo

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July 6, 2022 Report Open Access Edit New version

Open Phytolith Publishing Guidelines

by Karoune, Emma; Barboni, Doris; Bates, Jennifer; Dabengwa, Abraham; Dunseth, Zachary C.; García-Granero, Juan José; Kerfant, Celine; Lancelotti, Carla; Madella, Marco; Musaubach, Maria Gabriela; Ruiz-Pérez, Javier

These open phytolith publishing guidelines were developed by the International Committee on Open Phytolith Science at the request of Doris Barboni. The guidelines are initially for use in the special issue on Phytoliths in Asia for the journal - *Review of Palaeobotany and Palynology*.

This will be the first of its kind to ask authors to comply with good open science practices for all of the submissions and we offer these guidelines about best practice to assist authors.

There is also a guide for uploading data to Zenodo to help researchers with this step of open publishing.

67 views **69 downloads** See more details...

Indexed in **OpenAIRE**

Publication date: July 6, 2022

DOI: DOI 10.5281/zenodo.6803489

Preview

Page: 1 of 6 | Automatic Zoom | Previous Next

Open Phytolith Publishing Guidelines

Recommendations on open publishing from the International Committee on Open Phytolith Science for the special issue on *Phytoliths in Asia*.

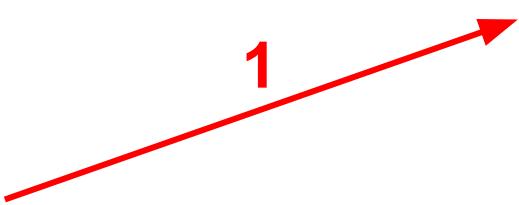
- Required actions - must be done to publish an article in this special issue and are criteria that will be held to by the reviewers and editors. This will make your data FAIR (findable, accessible, interoperable and reusable) and open.
- Encouraged actions - recommended for greater openness of your research.

Level	Actions	How to achieve this
Required	1. Use of ICPN 2.0	All data and graphs must use ICPN 2.0 (ICPT)

Steps towards open and accessible publishing

Accessible
research
papers

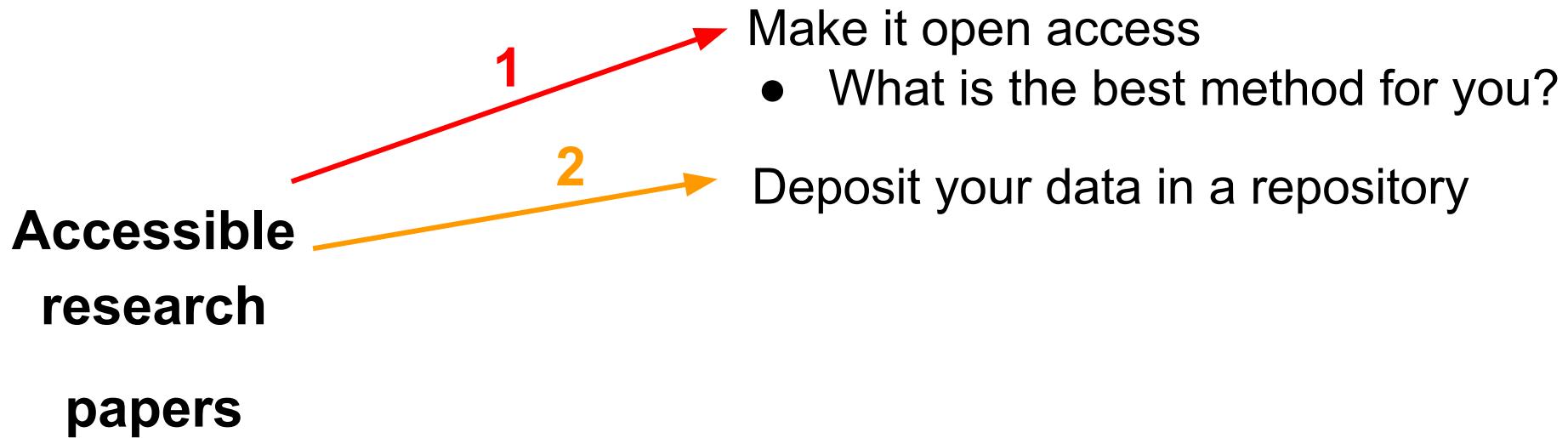
1



Make it open access

- What is the best method for you?

Steps towards open and accessible publishing

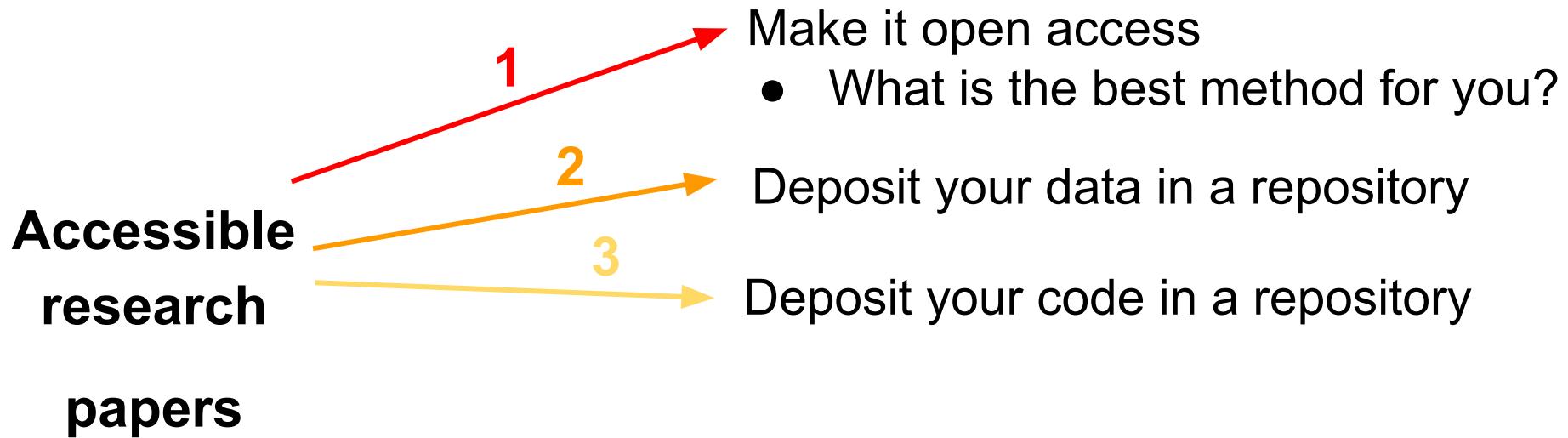


Deposit data in a repository

- Using repositories will be covered in depth in next workshop
- Lots of free to use repositories to choose from
- Data does not have to be open
 - Restricted/closed but provide access arrangements is fine
 - Embargoed
- Putting data in repo means it will not be lost as gives it a persistent identifier, and has more chance of reuse



Steps towards open and accessible publishing



Deposit code in repository



Open source software

- Commonly used software languages are R and Python.
- Archaeologists tend to use R

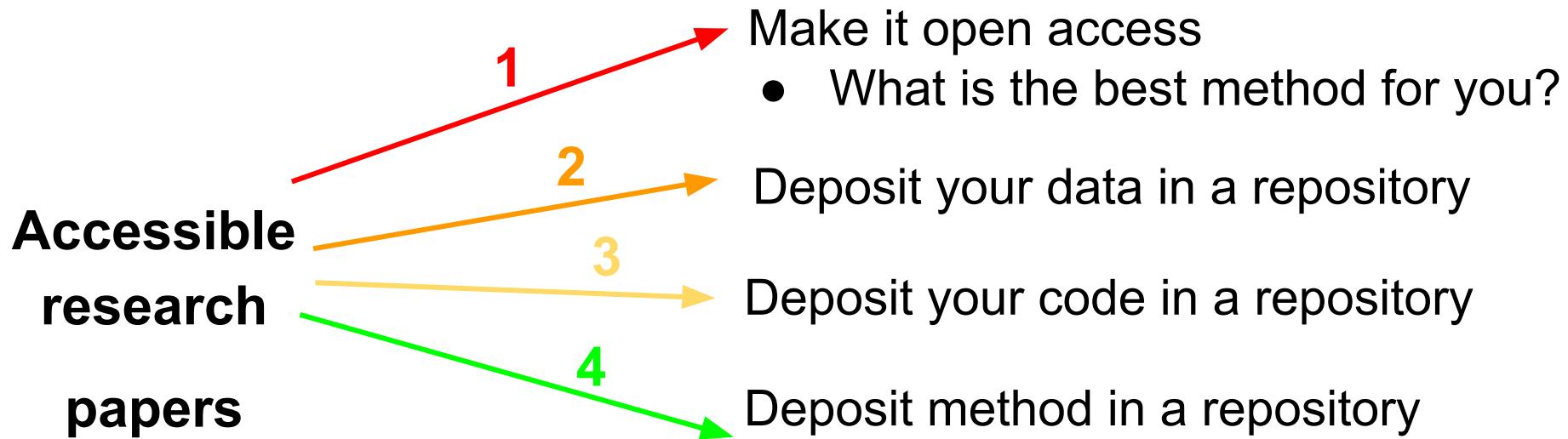
Some reasons to move to using R:

- It's free!
- You can take all your work easily with you when you move jobs
- Re-run analysis easily - one click!
- Others can see what analysis you have done so your work is reproducible and reusable

BUT!

- Learning coding languages is a steep learning curve
- Code really is just openly reporting your analysis steps - can be done by transparent reporting.

Steps towards open and accessible publishing



Deposit methods in a repository

- Full methods are usually too long to go in research papers
- Important to be transparent about methods for other researchers to understand your research
- Best options are:
 - Cite one methods paper
 - Write a full method and archive it.

Methods	Important information to be provided
Sampling	<ul style="list-style-type: none">● Origin and context of samples● How samples were collected and stored
Extraction protocol	<ul style="list-style-type: none">● Type of equipment/supplies used (e.g., centrifuge, drying oven, centrifuge tubes)● Chemicals and concentrations● Step by step details of method (e.g., including centrifuge times and speed, initial weight/volume of sample, drying temperatures)● If concentration has been calculated, report steps followed (e.g., weighting steps, counting of fields of view on the slide, area of fields of view)
Counting method	<ul style="list-style-type: none">● Describe if morphotypes have been systematically excluded from the counting (including non-identifiable morphotypes)● Explain how single morphotypes have been counted - e.g., minimum count size or strategy● Explain if silica skeletons (i.e., articulated cells) have been counted and how (i.e., separately from the total count or not)● Scanning procedure● Morphometrics applied● Type of equipment used (e.g., light microscope, SEM), including magnification

Using Protocols.io

This is a repository for archiving methods

Gives a DOI

Versions

The screenshot shows a detailed view of a method page on Protocols.io. At the top left is a thumbnail image of a micrograph showing plant tissue with purple-stained structures. To its right, the title is "Phytolith extraction and counting procedure for modern plant material rich in silica skeletons V.2". Below the title is a "DOI" link: dx.doi.org/10.17504/protocols.io.q26g74mb8gwz/v2. To the right of the DOI are four dark grey buttons with white icons: "COMMENTS 1", "BOOKMARK", "RUN", and "COPY / FORK". Below the DOI, the authors listed are Francesca D'Agostini^{1,2}, Javier Ruiz-Pérez¹, Marco Madella^{1,3,4}, Vincent Vadez^{2,5}, and Carla Lancelotti^{1,3}. Further down, the affiliation for ¹CaSES Research Group is given as Universitat Pompeu Fabra, c/Trias Fargas 25-27, Barcelona 08005, Spain. For ²DIADE Unit, it is IRD, University of Montpellier, Av. Agropolis 911, Montpellier 34394, France. For ³ICREA-Catalan Institution for Research and Advanced Studies, Pg. Lluís Companys 23, Barcelona 08010, Spain. For ⁴Department of Geography, Archaeology and Environmental Studies, University of Witwatersrand, 1 Jan Smuts Avenue, Braamfontein, Johannesburg 2000, South Africa. For ⁵Crop Physiology Laboratory, ICRISAT, Patancheru 502324, Telangana, India. At the bottom left is a "SHARE" button with a person icon. Next to it is a "WORKS FOR ME" button with the number "1". At the very bottom is a user profile for "fra.dagostini F D'Agostini" from Universitat Pompeu Fabra, Université de Montpellier.

Drying plant material

The first steps (points 1 and 2) aim to obtain very clean and dry samples to evaluate biomass production before the extraction and to store plant tissues for future use. If biomass evaluation or storage are not needed, start directly from point 3.

Collect the tissues of interest from the whole plant. Store each sample in a separate paper bag and put the paper bags in a dryer. Paper bags prevent the formation of fungi and bacterial infection, allowing the evaporation of tissues' humidity. Collect the tissues of interest from the whole plant. Store each sample in a separate paper bag and put the paper bags in a dryer. Paper bags prevent the formation of fungi and bacterial infection, allowing the evaporation of tissues' humidity.

- 2 Leave the plant tissues to dry at 60-70°C in a dryer (we use a IWC125 Leec drying cabinet). Check the bags once a day to be sure they do not develop any fungi infection because of the heat. Weigh the samples until no weight loss is observed to be sure to have obtained completely dry tissues. Our dried samples weigh on average 45% less of the fresh biomass. Considering that each species/treatment and tissue has its own level of humidity, we suggest testing the tissues for their consistency to make sure they are dry: they will be completely dry when they become brittle (try to crush the leaves with your hands to check their consistency).
- 3 Wash samples in an ultrasound bath (we used a Ultronix Proclean 3.0) at room temperature for **⌚ 00:05:00** to remove extraneous debris (such as soil particles). To wash many samples simultaneously, use small glass beakers: put each sample in a labeled beaker and cover it with distilled water. Put all the beakers in the ultrasound bath and fill the container with water while paying attention not to overflow in the beakers. Cut the samples into pieces to fit into the beakers. 100 ml beakers are large enough to contain samples of grasses. Calibrate beaker and sample sizes based on the species under analysis.



Wet procedure

8

Note

These steps are fundamental to digest carbonates and oxidize organic material left from the ashing procedure and any form of organic material that was not removed.

Remove the ashes from the crucible with a spatula and place them in an Eppendorf tube of 5 ml. Use a clean spatula for each sample so not to contaminate between samples.



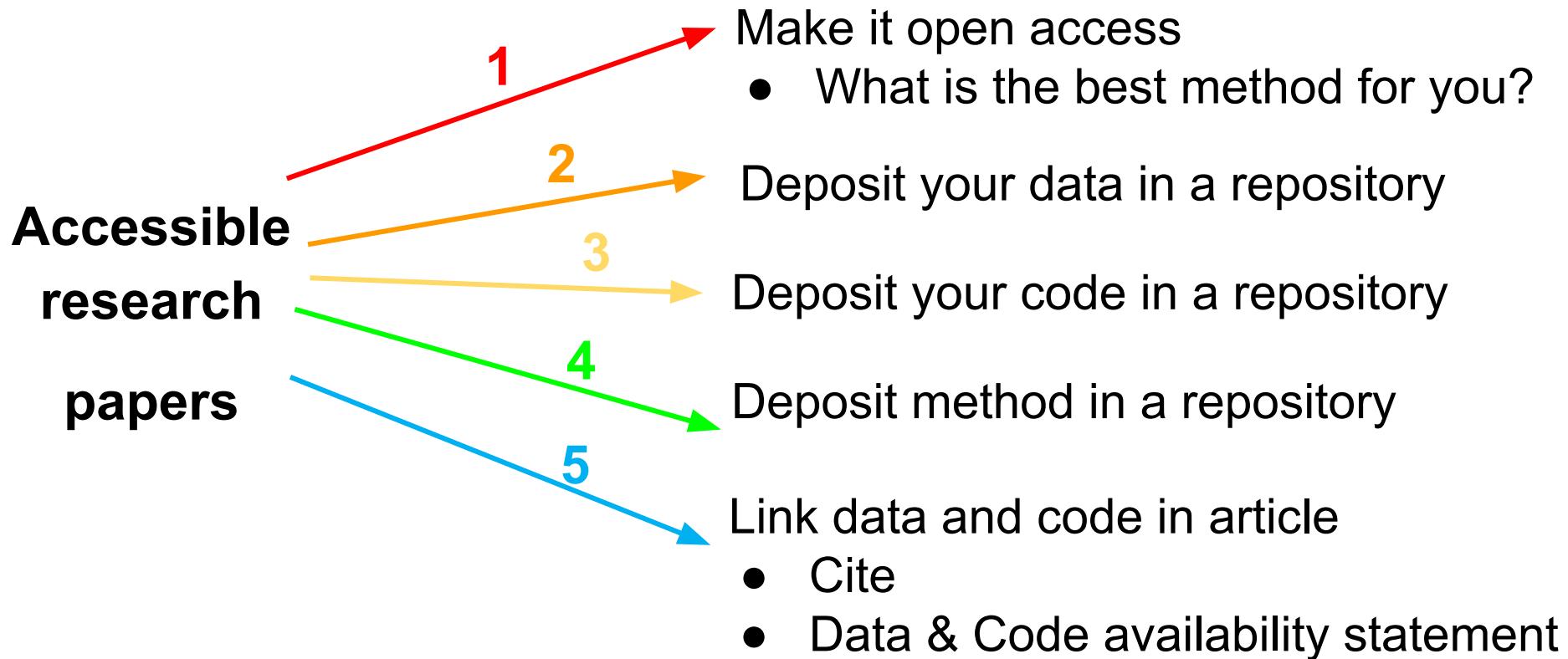
Ceramic crucibles containing the samples, covered with a lid. a) shows the plant tissue before ashing and b) shows the white ashes obtained after 12 hours in the oven.

- 9 Add **900 µL** of 10% v/v HCl and vortex the tube to stir the solution (we use an ES714R Maxi Mixer). Leave the HCl to react for **⌚ 05:00:00** (or till the reaction stops) with the cap of the tube open. Do not let the sample dry by adding more HCl solution if necessary.

Safety information

Work in a fume cupboard. Wear a lab coat and gloves when dealing with Hydrochloric acid.

Steps towards open and accessible publishing



Link data and code in article

Tell others where your data and code are and how to find, access and reuse them.

- Cite your data, code, method in the article
- Write a clear data/code availability statement

Data availability statements

Availability of data	Template for data availability statement
Data openly available in a public repository that issues datasets with DOIs	The data that support the findings of this study are openly available in [repository name e.g “figshare”] at http://doi.org/[doi] , reference number [reference number].
Data openly available in a public repository that does not issue DOIs	The data that support the findings of this study are openly available in [repository name] at [URL], reference number [reference number].
Data derived from public domain resources	The data that support the findings of this study are available in [repository name] at [URL/DOI], reference number [reference number]. These data were derived from the following resources available in the public domain: [list resources and URLs]
Data available within the article or its supplementary materials	The authors confirm that the data supporting the findings of this study are available within the article [and/or] its supplementary materials.
Data generated at a central, large-scale facility, available upon request	Raw data were generated at [facility name]. Derived data supporting the findings of this study are available from the corresponding author [initials] on request.
Embargo on data due to commercial restrictions	The data that support the findings will be available in [repository name] at [URL / DOI link] following a [6 month] embargo from the date of publication to allow for commercialization of research findings.
Data available on request due to privacy/ethical restrictions	The data that support the findings of this study are available on request from the corresponding author, [initials]. The data are not publicly available due to [restrictions e.g. their containing information that could compromise the privacy of research participants].
Data subject to third party restrictions	The data that support the findings of this study are available [from] [third party]. Restrictions apply to the availability of these data, which were used under license for this study. Data are available [from the authors / at URL] with the permission of [third party].
Data available on request from the authors	The data that support the findings of this study are available from the corresponding author, [author initials], upon reasonable request.
Data sharing not applicable – no new data generated	Data sharing is not applicable to this article as no new data were created or analyzed in this study.
Non-digital data available	Non-digital data supporting this study are curated at [add location].
Data not available due to [ethical/legal/commercial] restrictions	Due to the nature of the research, due to [ethical/legal/commercial] supporting data is not available.
Data not available - participant consent	The participants of this study did not give written consent for their data to be shared publicly, so due to the sensitive nature of the research supporting data is not available.

Many researchers say they'll share data – but don't

Reasons included a lack of informed consent or ethics approval to share; misplaced data; and that others had moved on from the project.

Clare Watson



Nature 606, 853 (2022)
doi:<https://doi.org/10.1038/d41586-022-01692-1>

What they look like

Data Accessibility Statement

There is a data paper to accompany this research project. The DOI for this is:

<http://doi.org/10.5334/joad.67>.

Link to another paper

The full dataset is available at the following link as a csv file: <https://osf.io/8p3bn/>.

Link to data

The research compendium for this project can be found here: <https://osf.io/9wa2f/>. It includes the raw data csv, an excel data analysis file, a readme file that explains the steps of data collection and data analysis, a workflow diagram and an alternative *Figure 6* that provides more information about steps forward and relevant resources in a simple table.

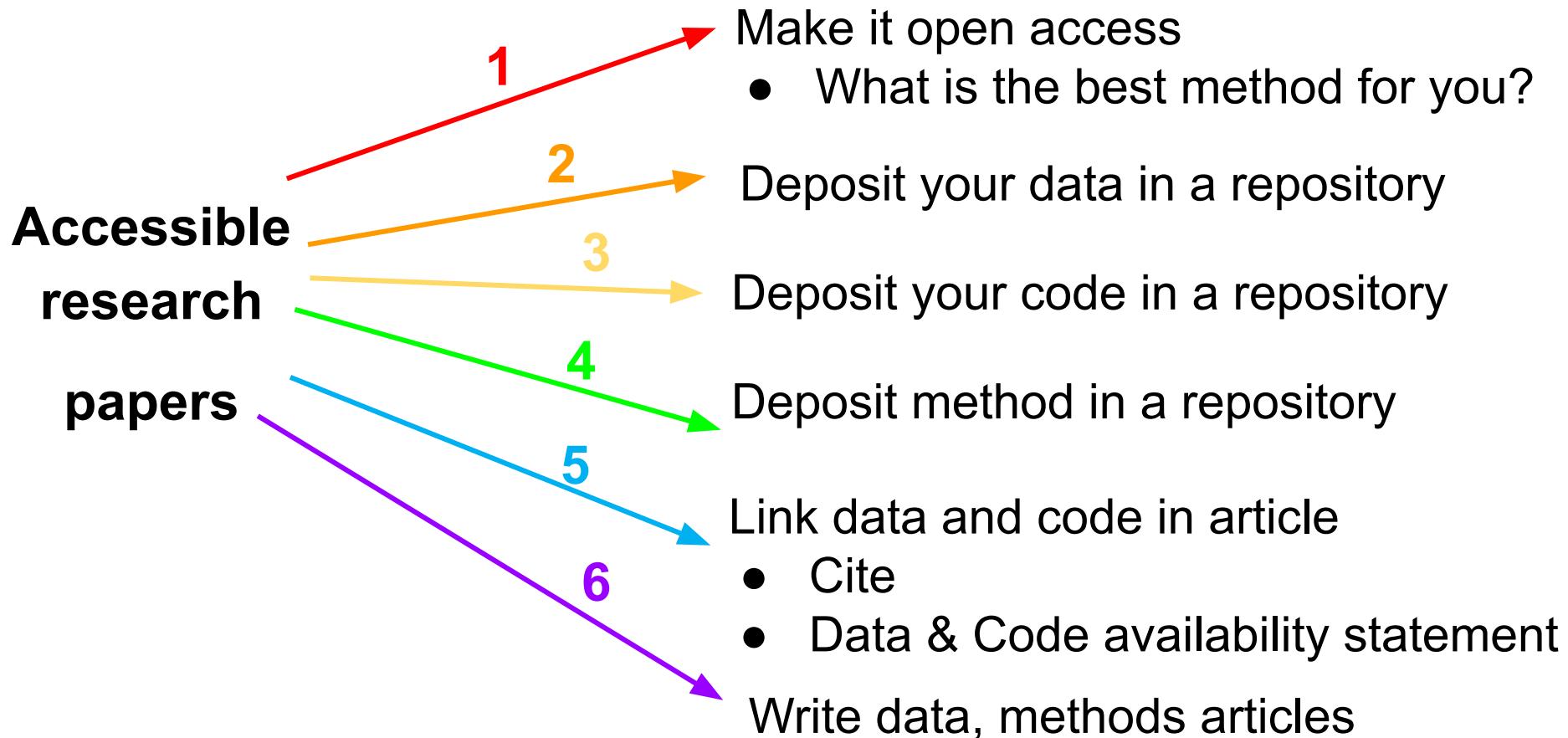
Link to methods, analysis & documentation

The dataset from Lodwick (2019) can be found here:

<http://doi.org/10.5287/bodleian:7QkmEEp9Y>.

Link to someone else's data used in this paper

Steps towards open and accessible publishing



Other types of articles

You might want to publish parts of your research as a separate article to create a more transparent and open record of your research.

- Pre-registrations and registered reports
- Data papers
- Software papers
- Methods papers

Pre-registration and registered reports

These articles explain what you intend to do in your research project

Include:

- Hypotheses
- Methods
- Intended analyses



Data papers

- Describes a dataset
- Does not include analysis or findings
- Data usually in an open repository
- Use a template to write it
- Data journals



Example of data paper

Data papers

The Published Archaeobotanical Data from the Indus Civilisation, South Asia, c.3200–1500BC

Author: J. Bates 

Abstract

The collection of this dataset of published archaeobotanical data from the Indus Civilisation (c.3200–1500BC) was carried out by the author as part of her doctoral work, and has continued up to October 2017. The dataset represents a systematic collation of all primary published macrobotanical data, regardless of their designation as ‘crop’, ‘fully domesticated’ or ‘wild/weedy’ species. The dataset comprises 63 sites and 339 ‘taxa’ (including less confidently identified elements such as ‘charred seed’). Data is presented as presence/absence due to different sampling, quantification and data presentation practices.

Repository Location

<https://doi.org/10.7910/DVN/WSHMAD>



A screenshot of a web page from the Harvard Dataverse platform. At the top, there's a header with the Harvard logo, navigation links for 'Add Data', 'Search', 'About', 'User Guide', 'Support', 'Sign Up', and 'Log In'. Below the header, the title 'Journal of open archaeology data' is displayed, along with the 'ubiquity press open access' logo. The main content area shows the dataset title 'The Published (to date October 2017) Archaeobotanical Data from the Indus Civilisation, South Asia, c.3200–1500BC' and its version 'Version 2.0'. It includes a thumbnail image of a document, the author's name 'Bates, Jennifer, 2019', the DOI 'https://doi.org/10.7910/DVN/WSHMAD', and download statistics ('782 Downloads'). Below this, sections for 'Description', 'Subject', 'Arts and Humanities', 'Keyword', 'Archaeology, Archaeobotany, South Asia, Indus Civilisation, Harappan, Bronze Age, Paleoethnobotany, Macrobotanical', and 'Related Publication' are shown. A red arrow points from the URL in the previous section towards the 'Related Publication' section of this screenshot.

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Dataverse

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Journal of open archaeology data

ubiquity press open access

Journal of Open Archaeology Data (JOAD) Dataverse Home Page

(Ubiquity Press)

Harvard Dataverse > Ubiquity Press Dataverse > Journal of Open Archaeology Data (JOAD) Dataverse >

**The Published (to date October 2017)
Archaeobotanical Data from the Indus Civilisation,
South Asia, c.3200–1500BC**

Version 2.0

Bates, Jennifer, 2019, "The Published (to date October 2017) Archaeobotanical Data from the Indus Civilisation, South Asia, c.3200–1500BC", <https://doi.org/10.7910/DVN/WSHMAD>, Harvard Dataverse, V2, UNF:6:lbJUrIw8a4IWXSv9IMRX/A== [fileUNF]

Cite Dataset Learn about Data Citation Standards.

Access Dataset Contact Owner Share

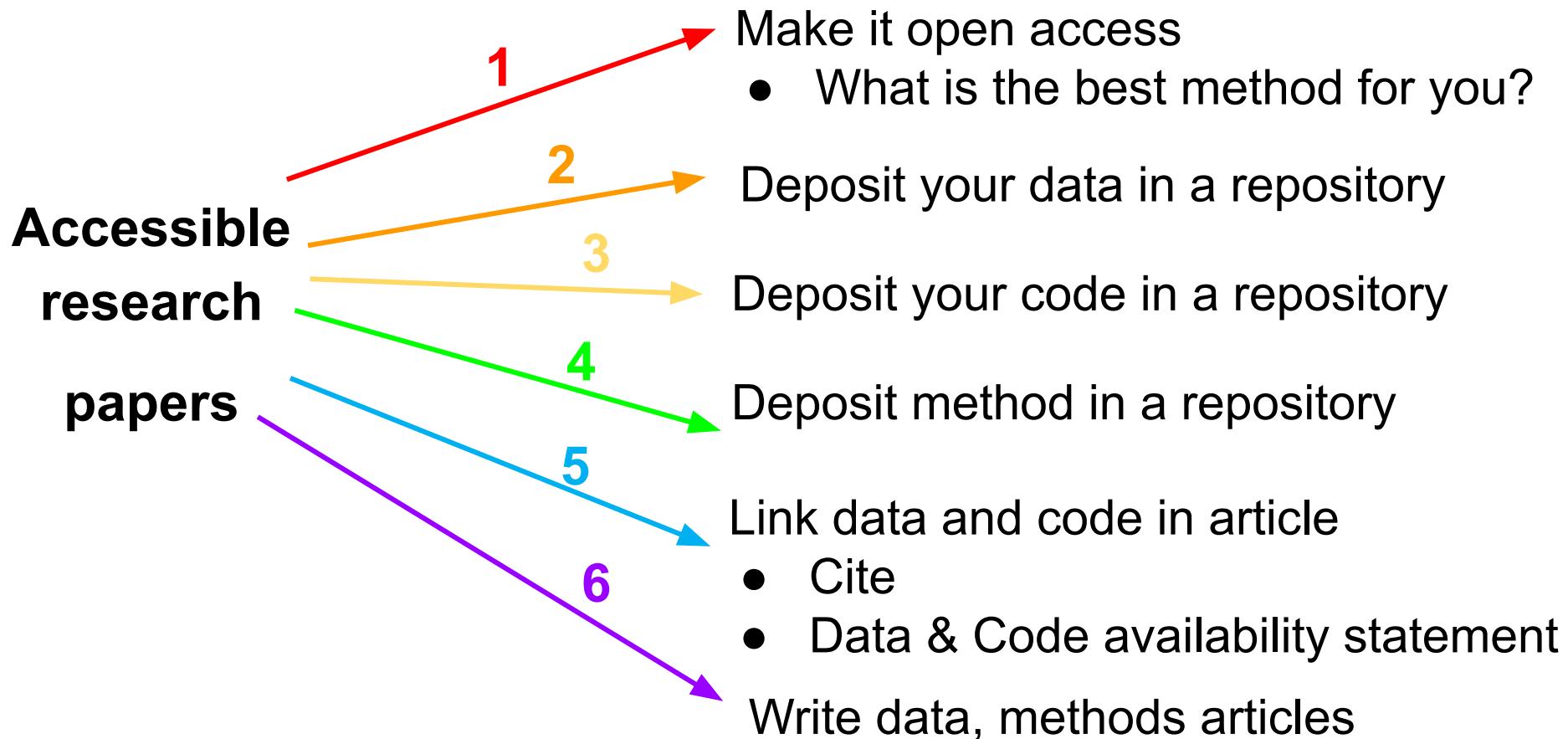
Description This database represents the published archaeobotanical data from the Indus Civilisation (c.3200–1500BC) up to October 2017. The dataset represents a systematic collation of all primary published macrobotanical data, regardless of their designation as economically valuable plant or wild species. The database comprises of 63 sites and 339 'taxa' (including less confidently identified elements such as 'charred seed'). Data is presented as presence/absence due to different sampling, quantification and data presentation practices.

Subject Arts and Humanities

Keyword Archaeology, Archaeobotany, South Asia, Indus Civilisation, Harappan, Bronze Age, Paleoethnobotany, Macrobotanical

Related Publication This paper is under review in JOAD; Also relevant for earlier, unpublished version of database: Bates, J., 2016. Social Organisation and Change in Bronze Age South Asia: a multi-proxy approach to urbanisation, deurbanisation and village life through phytolith and macrobotanical analysis (PhD). University of Cambridge, Cambridge.

Steps towards open and accessible publishing



Examples of open access publishing

1. Bates et al. 2017 -
<https://doi.org/10.1016/j.jas.2016.04.018>
2. Bates and Petrie 2016 - Man and environment.
3. Karoune 2022 - data linked and documentation -
<http://doi.org/10.5334/oq.88>
4. D'Agostini et al. 2023 - linked data, code and method
<https://www.sciencedirect.com/science/article/pii/S0034666722001816>
5. Wang & Marwick 2020 - Executable research article -
<https://doi.org/10.1016/j.jasrep.2020.102554>



Approaching rice domestication in South Asia: New evidence from Indus settlements in northern India

J. Bates^a , C.A. Petrie^a , R.N. Singh^b

Abstract

Keywords

1. Introduction

2. Background

3. New excavations at Indus settlements o...

4. Analytical methodology

5. Results

6. Implications of these data

7. Conclusions

Acknowledgements

References

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[Corrigendum to “Approaching Rice domestication in south Asia: New evidence from Indus settlements in northern...“](#)

Journal of Archaeological Science, Volume 101, January 2019, Pages 213

J. Bates, C.A. Petrie, R.N. Singh

[View PDF](#)

The authors confirm that the data supporting the findings of this study are available within the article

Phytolith Analysis and the Indus Civilisation: A Review

Jennifer Bates and Cameron A. Petrie

Division of Archaeology, University of Cambridge, Downing Street, Cambridge CB2 3DZ, UK

Table 1. The plant species identified by the various authors at the 11 sites analysed. (Own table with references to original sources of information used).

	Harrappa	Kot Diji	Balathal	Farmana	MSD I	MSD VII	ALM	Kanmer	SHIK	SUDK	Kanjara	Koj	
Fujiwara et al. (1993)		Madella (1999)	Madella (2010)	Eksambelek, Kajile and Eksambelek (1995-9)	Sugiyama (2011)	Bates (2011a, 2011b)	Bates (2011a, 2011b)	Lancelotti (2010)	Chaubhury and Tripathi (2012)	Lancelotti (2010)	Garcia-Granero et al. (2014)	Faroqui et al. (2013)	Faroqui et al. (2013)
Triticum sp. (wheat)	X		X										
Hordeum sp. (barley)		X	X										
Triticum/Hordeum sp. (wheat or barley)				X									
Oryza sp. (rice)	X	X			X	X	X						
Pennisetum/Seteria sp. (millet)		X		X									
Pennisetum sp. (millet)											X		
Eleusine sp. sp. (Ragi/millet)													
Brachypodium sp. (bowstring millet)	X												
Ecklonia colona (seaweed/millet)													
Millet indeterminate													
Avena sp. (oats)												X	
Leymus sp. (C. grass)	X												
Lolium sp. (grass)												X	
Andropogon sp. (C. grass)													
Zizaniopsis miliacea (a creeping grass)	X				X								

suggested that a decrease in the amount of Poaceae grasses at Kaj over time and an increase in millet, an arid-adapted crop, seemed to occur alongside increased drought indicators in pollen and soil salinity (Faroqui *et al.* 2013). Farooqui *et al.* (2013) suggest that this could be evidence of a gradual shift in human agrarian patterns towards arid-adapted strategies in response to climate change, which is supported by Singh *et al.*'s (2007) analysis of samples from a lake in Gujarat where they assessed climate change through phytolith assemblages over time.

Conclusions

Despite only a few sites having had analysis carried out thus far, phytoliths have already begun to provide new perspectives on difficult questions in Indus archaeology. Critical issue such as irrigation and 'missing' crops can be approached through phytoliths, and the technique can be applied to issues such as crop

Acknowledgements

The authors would like to thank D. Parikh for her unwavering help and support. They would also like to thank Dr R.N. Singh, Prof. M.K. Jones, Dr. M. Madella, Dr C. Lancelotti, Dr E. Lightfoot, Dr. S.P. Eksambelek, P.J. Jones, J.J. Garcia-Granero and various members of the GPR Laboratory for all their comments and help. JB is also very grateful to the *Land, Water, Settlement Project* for allowing her to work with their material, the Division of Archaeology and the McDonald Institute for Archaeological Research, University of Cambridge, for letting her use their labs and the Arts and Humanities Research Council who are funding her PhD from which this paper has developed out of.

References

- Albert, R.M., O. Bar-Yosef, L. Meignen and S. Weiner 2003. Quantitative Phytolith Study

Karoune 2022

The screenshot shows the OpenQuaternary website interface. At the top, there's a header with the site's name and a navigation bar with links for 'Search', 'Support', 'Donate', 'Sign Up', and 'Sign In'. Below the header, a main title reads 'Raw data from assessing open science practices in phytolith research'. To the left of this title, there's a sidebar with 'Contributors: Emma Karoune', 'Date created: 2020-07-23 10:42 PM | Last Updated: 2020-08-24 08:31 PM', 'Identifier: DOI 10.17605/OSF.IO/8P3BN', 'Category: Uncategorized', and 'License: CC0 1.0 Universal'. The main content area contains a 'Wiki' section with a brief introduction and a 'Recent Activity' feed showing three updates by Emma Karoune.

Reading: Assessing Open Science Practices in Phytolith Research

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Research paper

Assessing Open Science Practices in Phytolith Research

Author: Emma Karoune

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Open Science in Phytolith Research / Raw data from assessing open science practices in phytolith research

266.4KB Public P 0 ...

Contributors: Emma Karoune

Date created: 2020-07-23 10:42 PM | Last Updated: 2020-08-24 08:31 PM

Identifier: DOI 10.17605/OSF.IO/8P3BN

Category: Uncategorized

License: CC0 1.0 Universal

Wiki

Here you can find the dataset for assessing open science practices in phytolith research:

- Key to codes for Karoune 2020.csv - contains the codes used in each category of the dataset.
- Pre-print Raw data table for Karoune 2020 Open Science practices in Phytolith Research.csv - this is the dataset prior to peer review.
- Raw data table for Karoune 2020 Open Science practices in Phytolith Research.csv ...

Read More

Citation

Recent Activity

Emma Karoune updated wiki page Home to version 4 of Raw data from assessing open science practices in phytolith research 2020-08-24 08:31 PM

Emma Karoune updated wiki page Home to version 3 of Raw data from assessing open science practices in phytolith research 2020-08-24 08:30 PM

Emma Karoune updated wiki page Home to version 2 of Raw data from assessing open science practices in phytolith research

Data papers

Data from “Assessing Open Science Practices in Phytolith Research”

Author: Emma Karoune

Abstract

This is a dataset gathered to assess the state of open science practices in phytolith research. All articles presenting primary phytolith data were extracted from 16 prominent archaeological and palaeoecological journals between 2009 and 2018. In total, the dataset contains information on 341 articles. This included archaeological (n = 214), palaeoenvironmental (n = 53) and methodological (n = 74) studies. Information was recorded regarding the data location and what type of data was included in the text and as supplementary files. There was also data recorded in relation to open access, picture inclusion, use of the International code for Phytolith Nomenclature (ICPN) and the inclusion of a full method.

Keywords: Phytolith, Archaeobotany, Open data, Open Science, Open access

How to Cite: Karoune, E., 2020. Data from “Assessing Open Science Practices in Phytolith Research”. *Journal of Open Archaeology Data*, 8(1), p.6. DOI: <http://doi.org/10.5334/joad.67>

<http://doi.org/10.5334/oq.88>

<https://doi.org/10.1016/j.revpalbo.2022.104783>

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Review of Palaeobotany and Palynology

Volume 309, February 2023, 104783

<https://doi.org/10.1016/j.revpalbo.2022.104783>



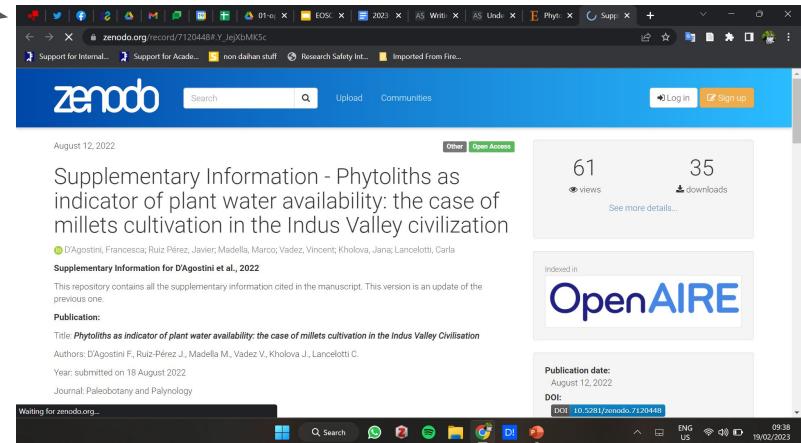
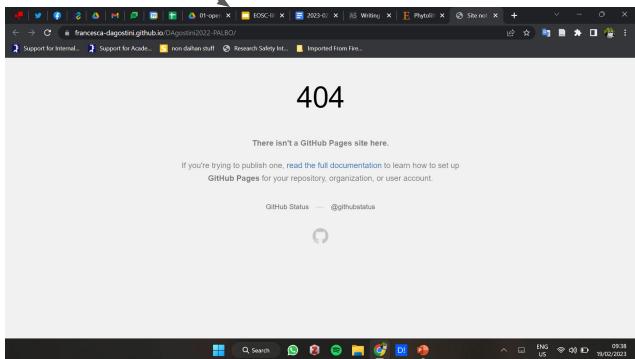
Appendix A. Supplementary data

[Download : Download Word document \(13KB\)](#)

Supplementary material. : Supplementary data to this article can be found online at [Zenodo.org](#) with the DOI

<https://doi.org/10.5281/zenodo.7120448>; and in the [github.io](#) repository

<https://francesca-dagostini.github.io/DAgostini2022-PALBO/>.



Also method on protocols.io -

<http://dx.doi.org/10.17504/protocols.io.q26q74mb8gwz/v2>

Executable research article

Green open access

Execute the data/code directly in an online environment

Standardization of ceramic shape: A case study of
Iron Age pottery from northeastern Taiwan

Li-Ying Wang  , Ben Marwick

<https://doi.org/10.1016/j.jasrep.2020.102554>

 README.md

kwl.pottery

<https://github.com/LiYingWang/kwl.pottery>

This repository contains the data and code for our paper:

Wang, L.-Y., Marwick, B., (2020). Standardization of ceramic shape: A case study of Iron Age pottery from northeastern Taiwan. *Journal of Archaeological Science: Reports* 33 <https://doi.org/10.1016/j.jasrep.2020.102554>

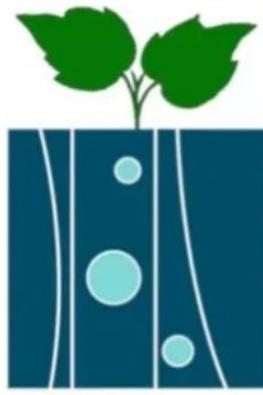
Questions????

Please put your hand up or write your question in the chat or shared document.



Explore and discuss

1. Take a look at the example articles
2. Discuss which bits you might be able to do now
3. Discuss what might be a barrier to you doing any type of open access shown in these examples
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5. What changes does this make to your publishing plans going forward?



AEA

Spring conference 2023

Data Science in
Environmental Archaeology

The AEA Virtual Spring Conference will be taking place online on **13 May 2023**, with optional **Basic R training sessions on 14 and 15 May 2023**.

Call for papers: <https://forms.gle/MBQ7gLaqzU9opZLe7>

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Connect with us!

Open Phytoliths Community Launch Event



Please join our Slack workspace here:

https://join.slack.com/t/openphytoliths/shared_invite/zt-1akxgco84-cz4Dii0Q5gXeb9J49UgYoQ



Join our mailing list: [complete this form](#).



Take a look at our NEW multi-lingual website!: [Open Phytoliths \(open-phytoliths.netlify.app\)](https://open-phytoliths.netlify.app)



We are also on twitter ([@open_phytoliths / Twitter](https://twitter.com/open_phytoliths)) and facebook ([Open Fitolitos | Facebook](https://facebook.com/OpenFitolitos))!