



How open is our research?

A discussion on the state of Open Science in the field of mineralogy and petrology.

Open Access

<https://www.menti.com/w863rchxod>



FID GEO

realised by

SUB | NIEDERSÄCHSISCHE STAATS- UND
UNIVERSITÄTSBIBLIOTHEK GÖTTINGENGFZ
Helmholtz Centre
POTSDAM

Melanie Lorenz



Kirsten Elger



Marcel Meistring

Mission

- Nationwide specialized information service for geosciences
- Promote open **access to digital resources** for researchers
- Contribute to an **open information infrastructure** in the geosciences
- a competence center for questions of persistent, citable, open publishing

Specialised Information Service for Geosciences

promoting Open Science in Geosciences



E-Publishing

Electronic publishing of institutional literature not released in publishing houses as well as pre- and postprints of research articles.



Research Data

Electronic publishing of curated research data via a domain repository for the Geosciences.



Digitisation

Digitisation on demand of literature and maps in the public domain, out of print, or on behalf of the publishing institutions or societies.

Holistic view of research results

Data

| Table S3. Sierra Nevada analyses of plant samples | | | | | | | | |
|---|------|--------------------------|-------------------------------|----|----|----|----|--|
| sample ID | IGSN | brief sample description | Element concentrations (µg/g) | | | | | |
| | | | Al | Fe | Mn | Mg | Ca | |
| fresh MW1 | | | | | | | | |
| MW2 | | | | | | | | |
| MW3 | | | | | | | | |
| MW4 | | | | | | | | |
| mean (2SE) | | | | | | | | |

| Table SN1. Sierra Nevada analyses of soil, saprolite, rock, bedload sediment and | | | | | | | | |
|--|---------------------------|-------------------|---------|------------|--------------------------------|------------------|--------------------------------|--------------------------------|
| sample ID | IGSN | sample type | XRF lab | depth (cm) | Major element oxides (wt%) (C) | | | |
| | | | | | SiO ₂ | TiO ₂ | Al ₂ O ₃ | Fe ₂ O ₃ |
| <i>P301 regolith depth profile</i> | | | | | | | | |
| SN01 * | GFFB1002T | bulk soil | GFZ | 7 | 36.2 | 0.55 | 11.4 | 3.88 |
| SN02 * | GFFB1002U | bulk soil | GFZ | 20 | 49.3 | 0.71 | 14.9 | 4.84 |
| SN02c * | GFFB1002U | exchangeable soil | - | 20 | n.a. | <lod | 0.00 | 0.00 |
| SN02r * | GFFB1002U | residuum soil | - | 20 | n.a. | 0.84 | 14.3 | 5.68 |
| SN03 * | GFFB1002V | bulk soil | GFZ | 30 | 57.5 | 0.88 | 17.6 | 6.44 |
| SN04 * | GFFB1002R | bulk soil | GFZ | 39 | 56.6 | 0.93 | 17.1 | 6.85 |
| SN04e * | GFFB1002R | exchangeable soil | - | 39 | n.a. | <lod | 0.00 | 0.00 |
| SN04r * | GFFB1002R | residuum soil | - | 39 | n.a. | 0.91 | 15.3 | 6.95 |

Research Paper

Scientific Drilling
The open-access ICDP and IODP journal

doi ID

International Continental Scientific Drilling Program (ICDP) | International Ocean Discovery Program (IODP)

Submit a manuscript | Manuscript tracking

Sci. Drill., 19, 1-11, 2015
https://doi.org/10.5194/sd-19-1-2015
© Author(s) 2015. This work is distributed under the Creative Commons Attribution 3.0 License.

Science report
COSC-1 - dr Scandinavia

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⁵Department of Civil and Environmental Engineering
⁶NERC Isotope Geoscience Laboratory
⁷Lawrence Berkeley National Laboratory

Global Biogeochemical Cycles

Research Article | Open Access

Mineral Nutrients Sourced in Deep Regolith Sustain Long-Term Nutrition of Mountainous Temperate Forest Ecosystems

D. Uhlir, W. Amelung, F. von Blanckenburg

First published: 19 August 2020 | <https://doi.org/10.1029/2019GB006513> | Citations: 2

PIDs link

Source: Kirsten Elger



Samples

GFZ
General Identifiers
Sample Family
Sampling Location
Geology
Sampling

Data Description

GFZ DATA SERVICES
Chemical and isotope data on the deep regolith's source of mineral nutrients in mountainous temperate forest ecosystems

Abstract
The data herein were used to trace the source and depth of nutrient uptake in two mountainous temperate forest ecosystems in southern Germany (Central German Mass Forest and Mittelhessisches Bergland). Mineral nutrient concentrations (measured by ICP-OES) and isotopic ratios of nitrogen and phosphorus were determined from soil and saprolite at 0, 20 and 30 cm depth. Soil and saprolite samples from 0, 20 and 30 cm were analyzed for major elements (C, N, P, K, Ca, Mg and Fe) and isotopic ratios of nitrogen and phosphorus. The data presented here show sampling strategies and analysis procedures in detail. In addition, data measured in the course of the study are also provided as machine-readable ASCII files. All samples are listed with their International Geosample Number (IGSN). Complete metadata can be viewed by clicking the links to the "Metadata" link (e.g., <https://doi.org/10.5194/gfz-2020-001>).

Data Publication

“Open science is the idea that scientific knowledge of all kinds should be openly shared as early as is practical in the discovery process.”

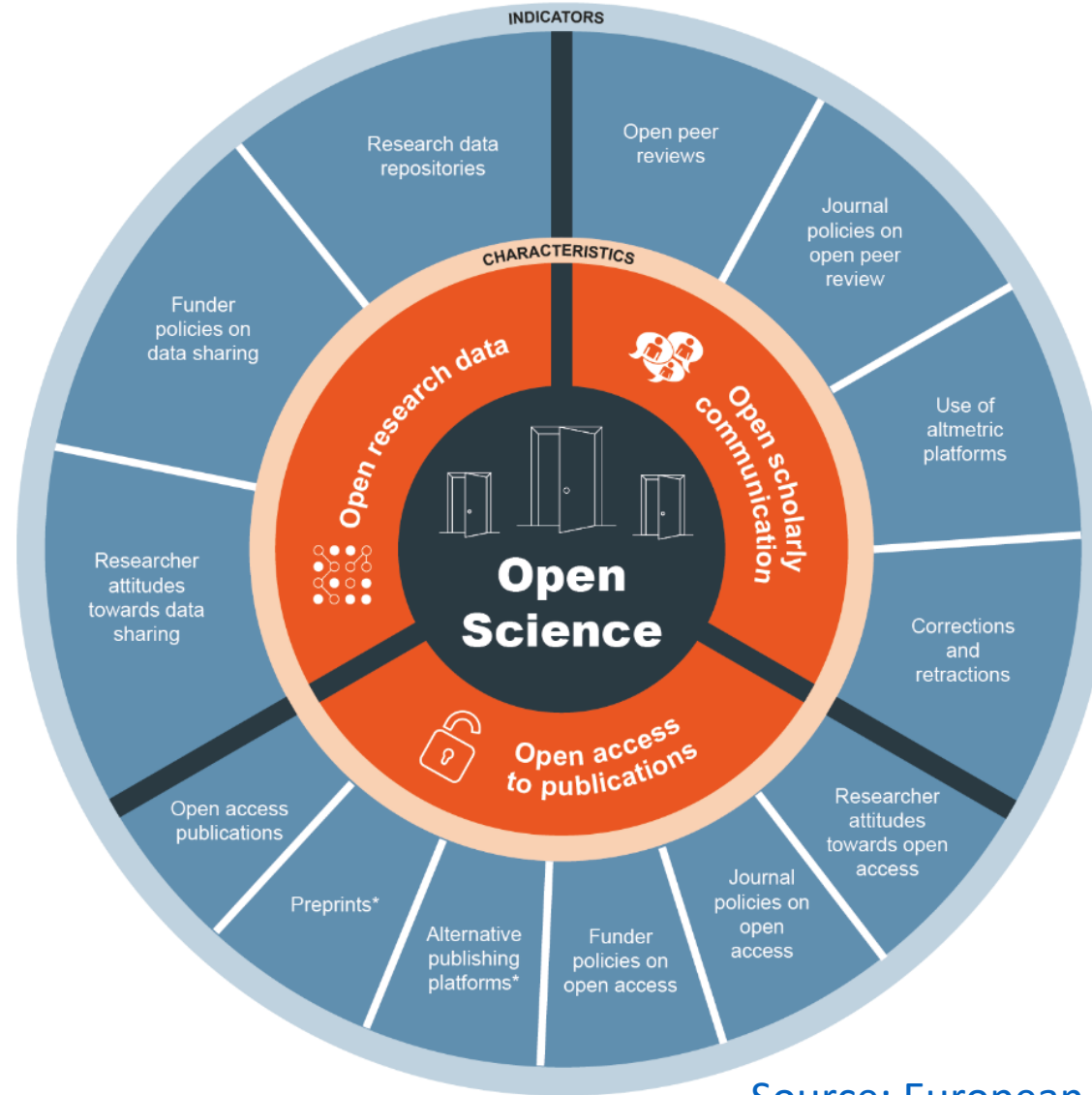
Michael Nielsen (Quantum physicist)

“ Open Science bündelt Strategien und Verfahren, die darauf abzielen, [...] alle Bestandteile des wissenschaftlichen Prozesses [...] offen zugänglich, nachvollziehbar und nachnutzbar zu machen.”

Mission Statement der deutschsprachigen Open Science AG

Source: Team OS Uni Konstanz

Open Science



[Source: European Union Open Science Monitor.](#)

Core Principles of Open Science

Transparency

Reproducibility

Reusability

Open communication

Open Science

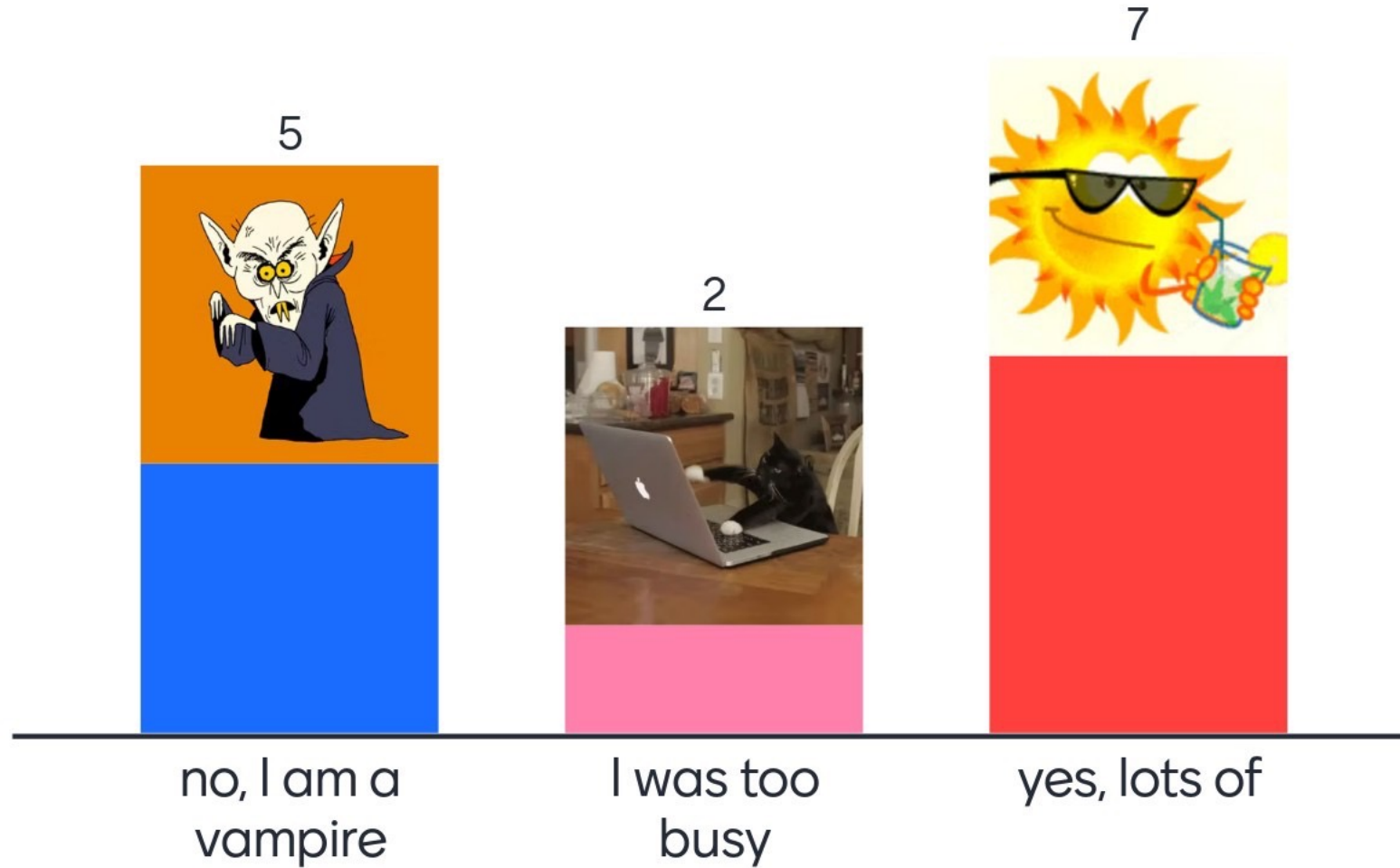
Open Access

unrestricted and free access to scientific information

Open Data and Research Data Management

Systematic collection, management, processing, analysis, annotation, storage, archiving, and post-usable publication of all data from the research process

Did you have time to enjoy the sun this week?



How often do you publish your research results?

sometimes

per years

regularly

3x

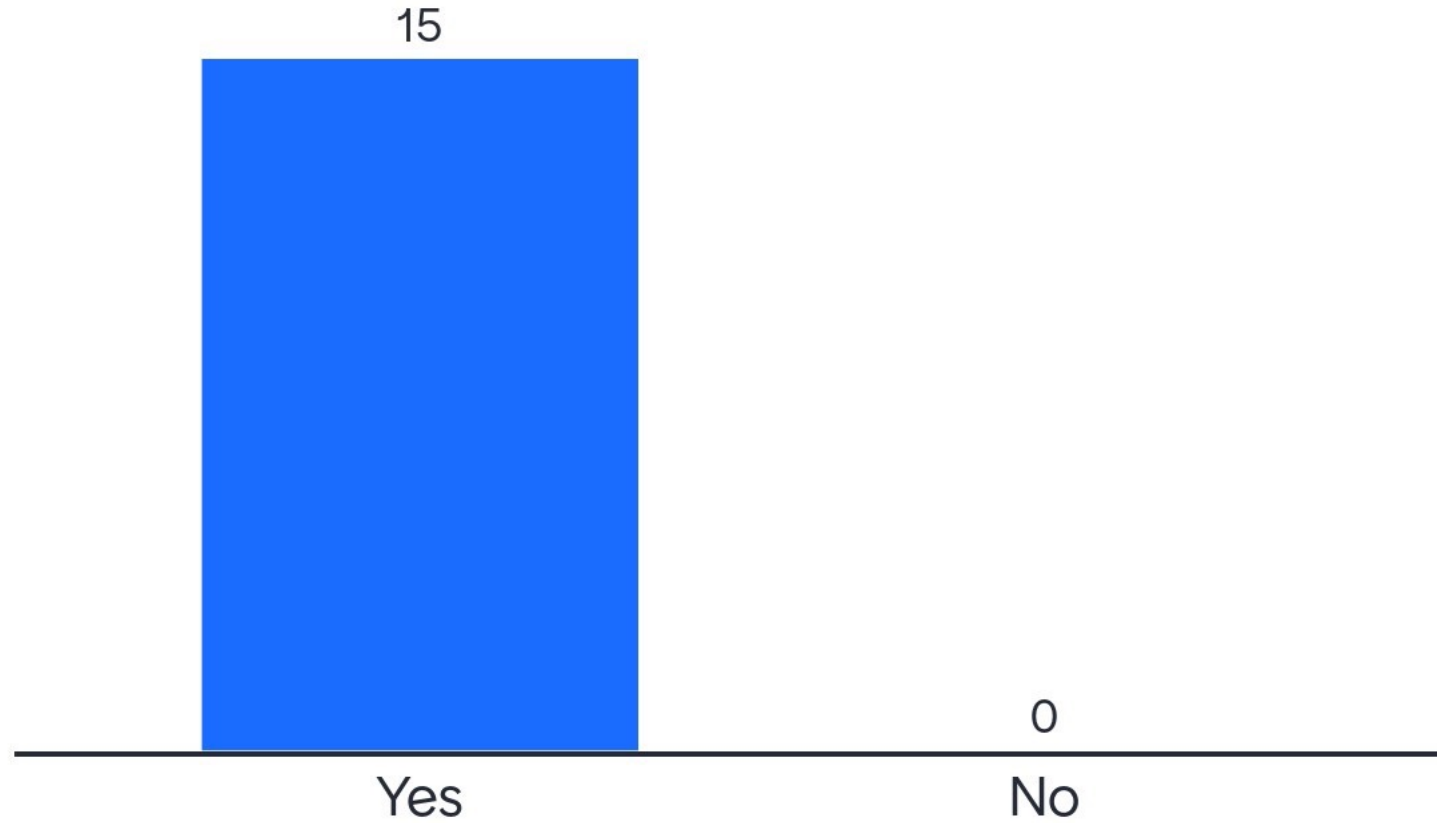
always

whenever they make sense

How do you choose a journal? What drives your decision?



Have you ever had problems getting access to a paper relevant to your research?



What do you do to gain access to an article/data relevant to your research that you did not have immediate access to?



Open Access

Budapest Open Access Initiative Declaration (2002)

Berlin Declaration on Open Access (2003)

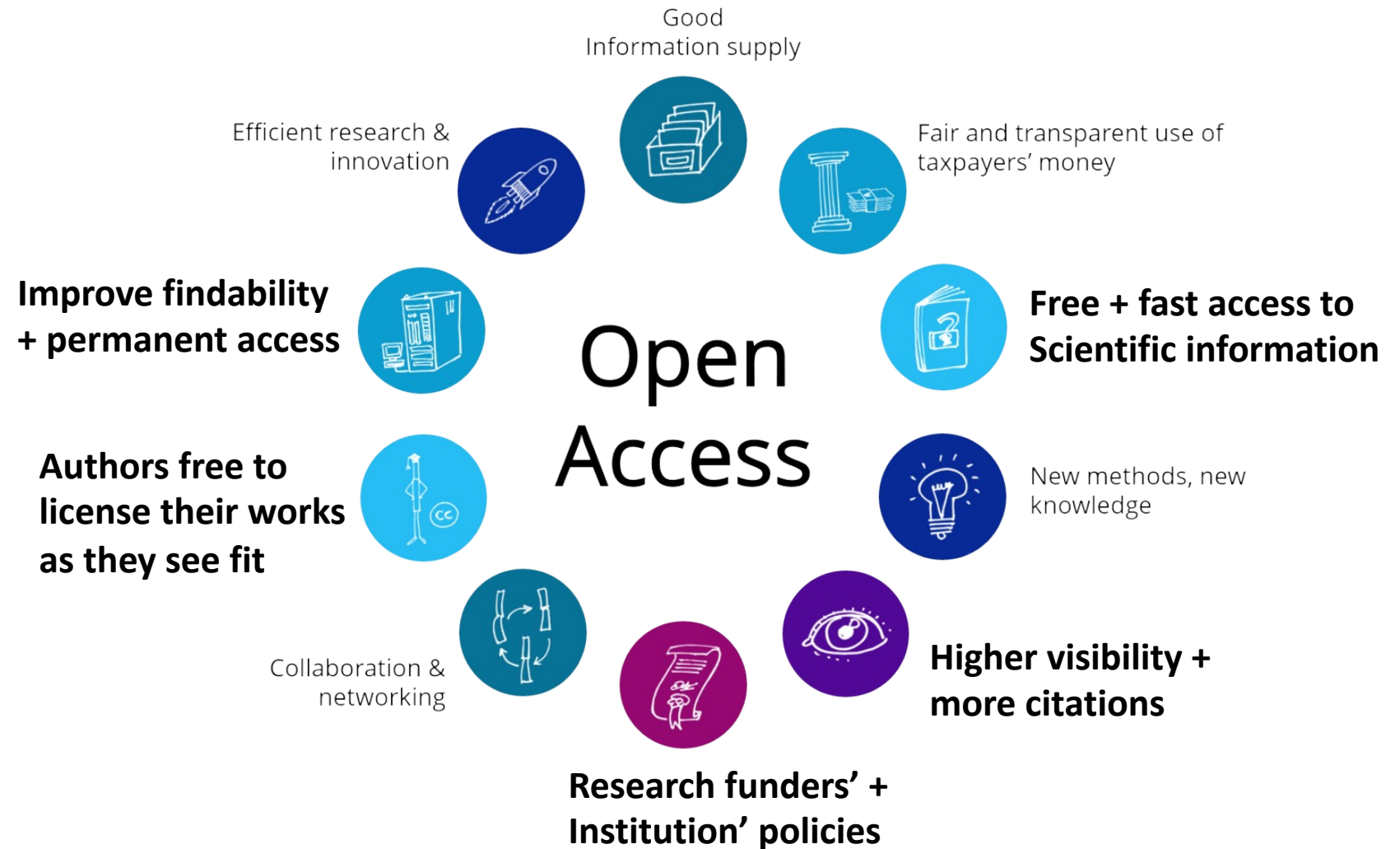
the aim of open access is to make scholarly literature freely accessible and reusable for everyone – that is, free of charge and, as far as possible, free of technical and legal barriers.

Lot of information on all topics Open Access:



Why Open Access

- scientific research is for the most part publicly funded
- The results of this publicly funded research should therefore also be publicly accessible.
- Open access publications are immediately and easily accessible free of charge and reusable.



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Source: based on [Brinken, H. \(2021\). 10 Gründe für Open Access. Zenodo.](#)

Open Access Publishing Roads

Gold Open Access

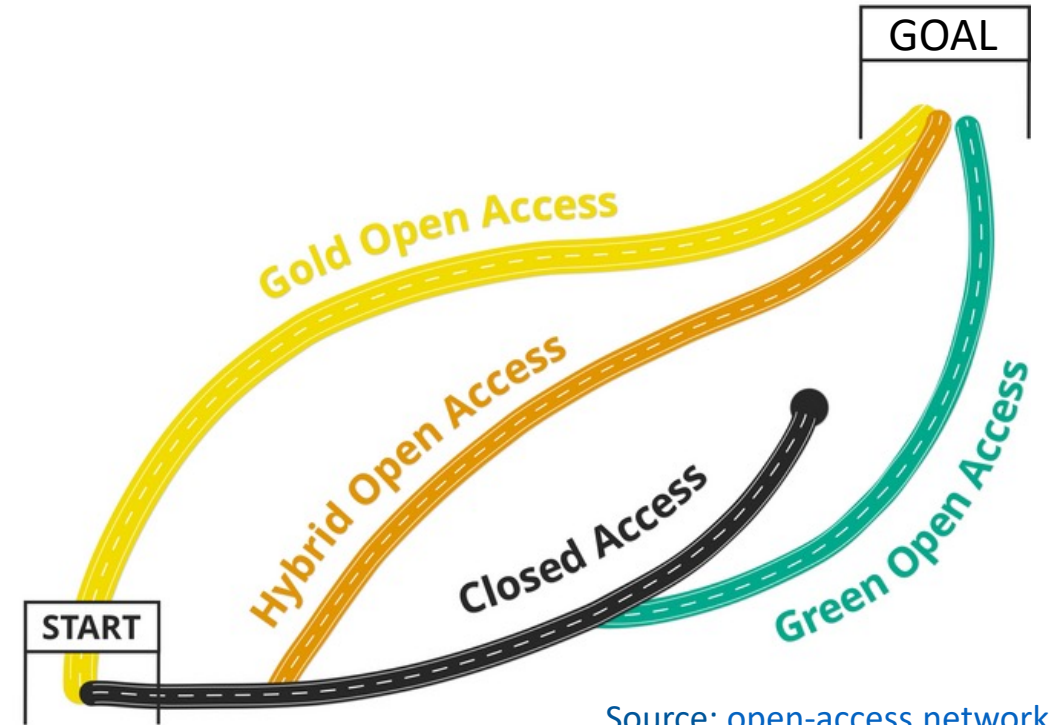
Publication in genuine Open Access Journals
APC Model (Article Processing Charge), no subscription fees
Open License (Creative Commons)

Closed Access

Access to articles through payment or institutional subscription
Often Additional publication fees (page charges, color figures, etc)

Hybrid Open Access

Closed access journals with specific open access options
Open access publication in a closed-access journal
Problem: no financial support through OA budget;
“double dipping”
Institution pays twice (licence of journal + OA charge)



Source: open-access.network (2021), Paths of Open Access (CC BY 4.0 International)

Green Open Access

Self-archiving (Zweitveröffentlichung) via repositories
After Embargo period of up to 12 months
Free of any charge

Open Access Publishing Roads

Gold Open Access Journals

Copernicus

European Journal of Mineralogy

APC: 44-55 € per page

International Union of Crystallography UK

Journal of Synchrotron Radiation

APCs: 1900 - 2500 USD

Geosciences Frontiers

APCs: 450-2950 USD

(CC BY-NC-ND) > attention this is the most restrictive
CC license!

MDPI

Minerals

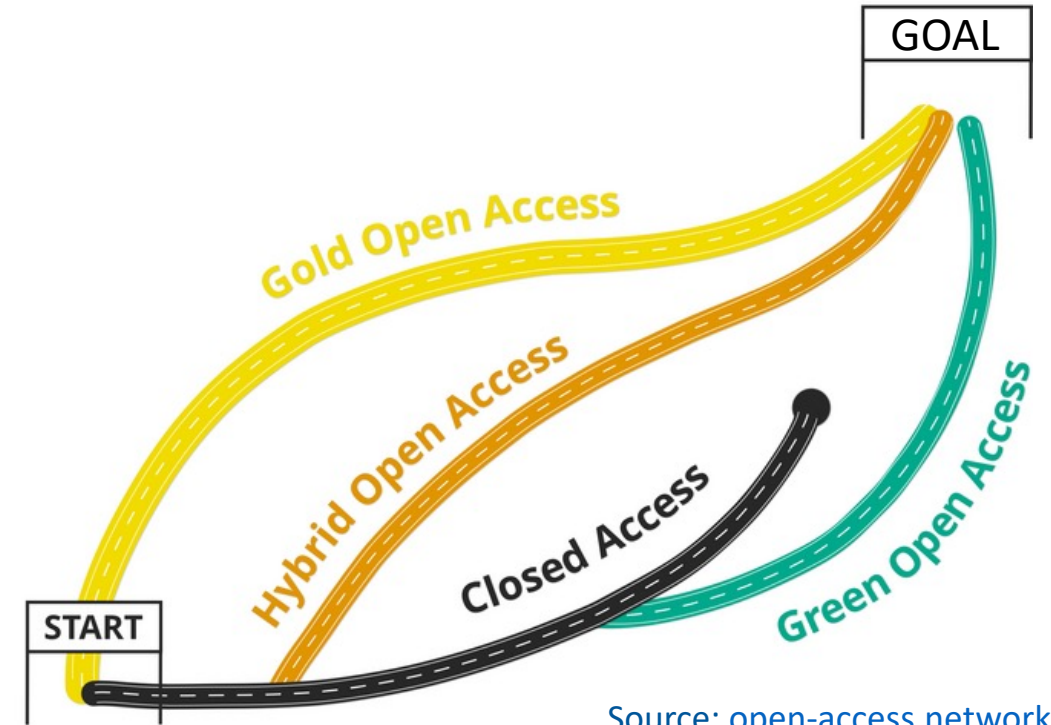
APC: 2000 CHF

Discount on APC's through MDPIs institutional open access program

Hindawi

Geofluids

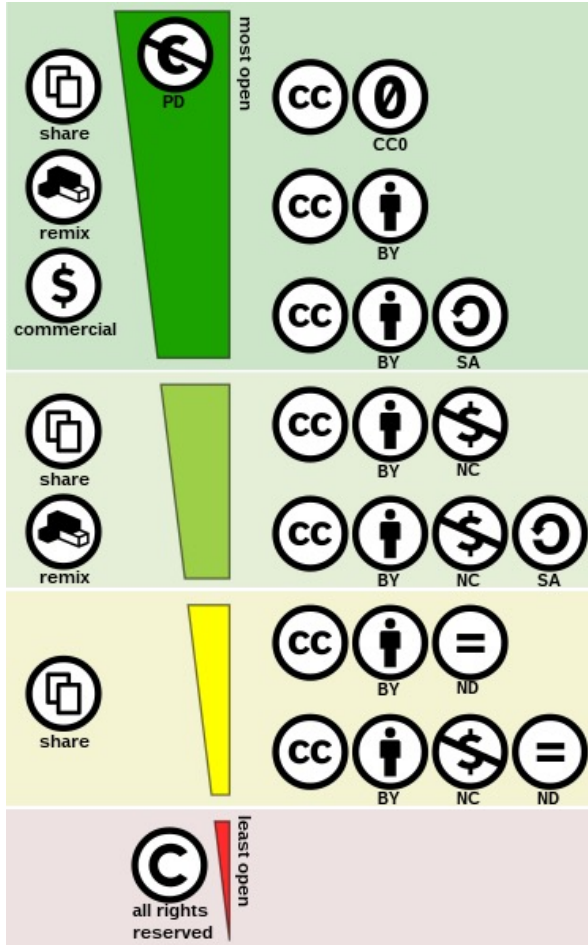
APCs: 1975 €



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(2021), Paths of Open Access
(CC BY 4.0 International)

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- CC licenses have become the norm for Open Access publishing
- Permission to anyone to use the work under the stated conditions



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|---------------|---------------|---------------|----|-------|-------|-------|----------|----------|
| PUBLIC DOMAIN | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ |
| PUBLIC DOMAIN | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ |
| BY | ✓ | ✓ | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ |
| BY SA | ✓ | ✓ | ✓ | ✓ | ✗ | ✗ | ✗ | ✗ |
| BY NC | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ | ✓ | ✗ |
| BY ND | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |
| BY NC SA | ✓ | ✓ | ✓ | ✗ | ✓ | ✗ | ✓ | ✗ |
| BY NC ND | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ | ✗ |

Closed Access Journals used by MinPet

Closed Access Journals

MSA / DeGruyter

American Mineralogist

GSA

Geology

Wiley

J. of Metamorphic Geology

Oxford Academic

Journal of Petrology

Cambridge University Press

Mineralogical Magazine

Elsevier

J. of Volcanology and Geothermal Research

Chemical Geology

Physics of the Earth and Planetary Interiors

Geochimica et Cosmochimica Acta

Applied Geochemistry

Gondwana Research

Lithos

Earth and Planetary Science Letters

Springer

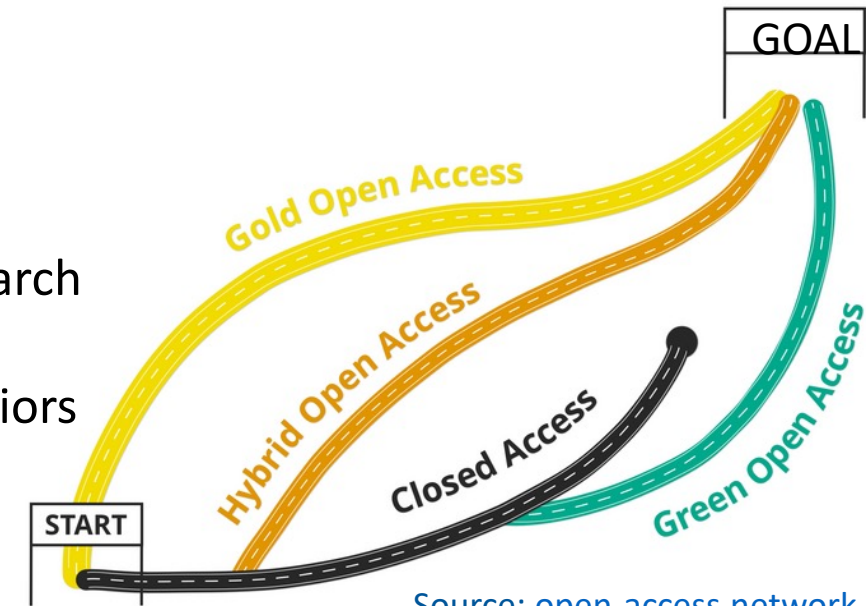
Mineralogy and Petrology

Physics and Chemistry of Minerals

International Journal of Earth Sciences

Mineralium Deposita

Contributions to Mineralogy and Petrology



Source: open-access.network (2021), Paths of Open Access (CC BY 4.0 International)

Open Access Options

Hybrid Open Access Journals

MSA / DeGruyter

American Mineralogist

APCs: 325 USD per page

Green Open Access = possible – 12 months embargo

GSA

Geology

APCs: 2500 USD

Green Open Access = possible (post-peer review version – repository of choice)

Wiley

Journal of Metamorphic Geology

APCs: 3650 €

Discount on APC via DEAL – financial support via OA budget

Oxford Academic

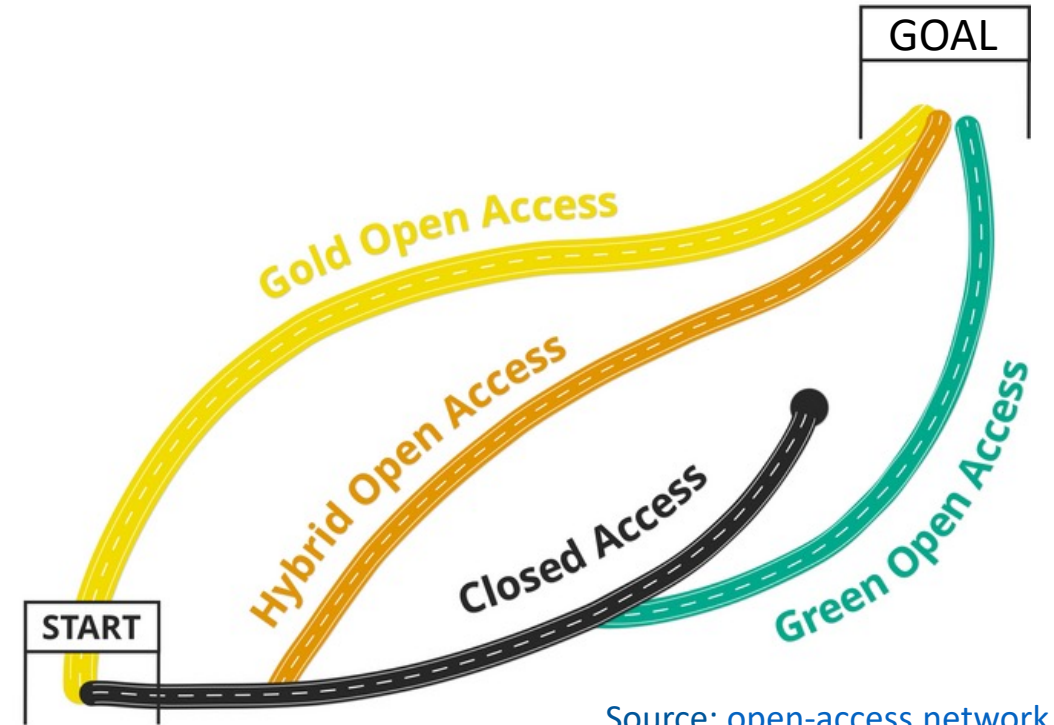
Journal of Petrology

APCs: 3100 €

Cambridge University Press

Mineralogical Magazine

APCs: 3255 USD



Source: open-access.network (2021), Paths of Open Access (CC BY 4.0 International)

Open Access Publishing Roads

Hybrid Open Access Journals

Springer

Mineralogy and Petrology

Physics and Chemistry of Minerals - Springer

International Journal of Earth Sciences

Contributions to Mineralogy and Petrology

Mineralium Deposita

APCs: 2290 - 2690 €

Discount on APC via DEAL – financial support
via OA budget

Green Open Access – 6 - 12 months

Data Policies

Elsevier

Journal of Volcanology and Geothermal Research

Chemical Geology

Physics of the Earth and Planetary Interiors

Geochimica et Cosmochimica Acta

Applied Geochemistry

Gondwana Research

Lithos

Earth and Planetary Science Letters

APCs: 2850 - 3880 USD

Discount on APC via DEAL – financial support via OA
budget

Green Open Access – institutional repository - **embargo**
24 months!

APCs + How to publish with Journals used by MinPet Members

Copernicus

European Journal of Mineralogy (https://www.european-journal-of-mineralogy.net/about/article_processing_charges.html) APC: 44-55 € per page

International Union of Crystallography UK

Journal of Synchrotron Radiation (<https://journals.iucr.org/s/services/openaccess.html>) APCs: 1900 - 2500 USD

Elsevier

Geosciences Frontiers (<https://www.elsevier.com/journals/geoscience-frontiers/1674-9871/open-access-journal>)

APCs: 450-2950 USD (CC BY-NC-ND) > attention this is the most restrictive CC license!

MDPI

Minerals (<https://www.mdpi.com/apc>) APC: 2000 CHF; Discount on APC's through MDPIs institutional open access program

Hindawi

Geofluids (<https://www.hindawi.com/journals/geofluids/>)

APCs: 1975 €

APCs + How to publish with Journals used by MinPet Members

Springer

Mineralogy and Petrology (<https://www.springer.com/journal/710/how-to-publish-with-us#Fees%20and%20Funding>)

Physics and Chemistry of Minerals (<https://www.springer.com/journal/269/how-to-publish-with-us#Fees%20and%20Funding>)

International Journal of Earth Sciences

Contributions to Mineralogy and Petrology (<https://www.springer.com/journal/410/how-to-publish-with-us#Fees%20and%20Funding>)

Mineralium Deposita (<https://www.springer.com/journal/126/how-to-publish-with-us#Fees%20and%20Funding>)

APCs: 2290 - 2690 €

Discount on APC via DEAL – financial support via OA budget

Green Open Access – 6 - 12 months

Data Policies

APCs + How to publish with Journals used by MinPet Members

Elsevier

Journal of Volcanology and Geothermal Research (<https://www.elsevier.com/journals/journal-of-volcanology-and-geothermal-research/0377-0273/open-access-options>)

Chemical Geology (<https://www.elsevier.com/journals/chemical-geology/0009-2541/open-access-options>)

Physics of the Earth and Planetary Interiors (<https://www.elsevier.com/journals/physics-of-the-earth-and-planetary-interiors/0031-9201/open-access-options>)

Geochimica et Cosmochimica Acta (<https://www.elsevier.com/journals/geochimica-et-cosmochimica-acta/0016-7037/open-access-options>)

Applied Geochemistry (<https://www.elsevier.com/journals/applied-geochemistry/0883-2927/open-access-options>)

Gondwana Research (<https://www.elsevier.com/journals/gondwana-research/1342-937x/open-access-options>)

Lithos (<https://www.elsevier.com/journals/lithos/0024-4937/open-access-options>)

Earth and Planetary Science Letters (<https://www.elsevier.com/journals/earth-and-planetary-science-letters/0012-821x/open-access-options>)

Ore Geology Reviews (<https://www.elsevier.com/journals/ore-geology-reviews/0169-1368/open-access-information>)

APCs + How to publish with Journals used by MinPet Members

MSA / DeGruyter

American Mineralogist (http://www.minsocam.org/MSA/AmMin/Auth_Info/OpenAccessInfo.html)

APCs: 325 USD per page; Green Open Access = possible – 12 months embargo

Oxford Academic

Journal of Petrology (https://academic.oup.com/journals/pages/open_access/charges)

APCs: 3100 €

Wiley

Journal of Metamorphic Geology

(<https://onlinelibrary.wiley.com/page/journal/15251314/homepage/fundedaccess.html>)

APCs: 3650 €; Discount on APC via DEAL – financial support via OA budget

GSA

Geology (<https://www.geosociety.org/gsa/pubs/openaccess.aspx>)

APCs: 2500 USD; Green Open Access = possible (post-peer review version – repository of choice)

Cambridge University Press

Mineralogical Magazine (<https://www.cambridge.org/core/journals/mineralogical-magazine/information/open-access-options>). APCs: 3255 USD

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- Launched in 2003

B!SON Funktionsweise API Über

B!SON befindet sich in der Betaphase und kann sich jederzeit ändern.

B!SON hilft dir dabei, eine passende Open-Access-Zeitschrift zu finden. Dazu werden semantische und bibliometrische Verfahren verwendet. Füge die Informationen deiner Publikation unten ein oder suche sie [mittels der DOI](#).

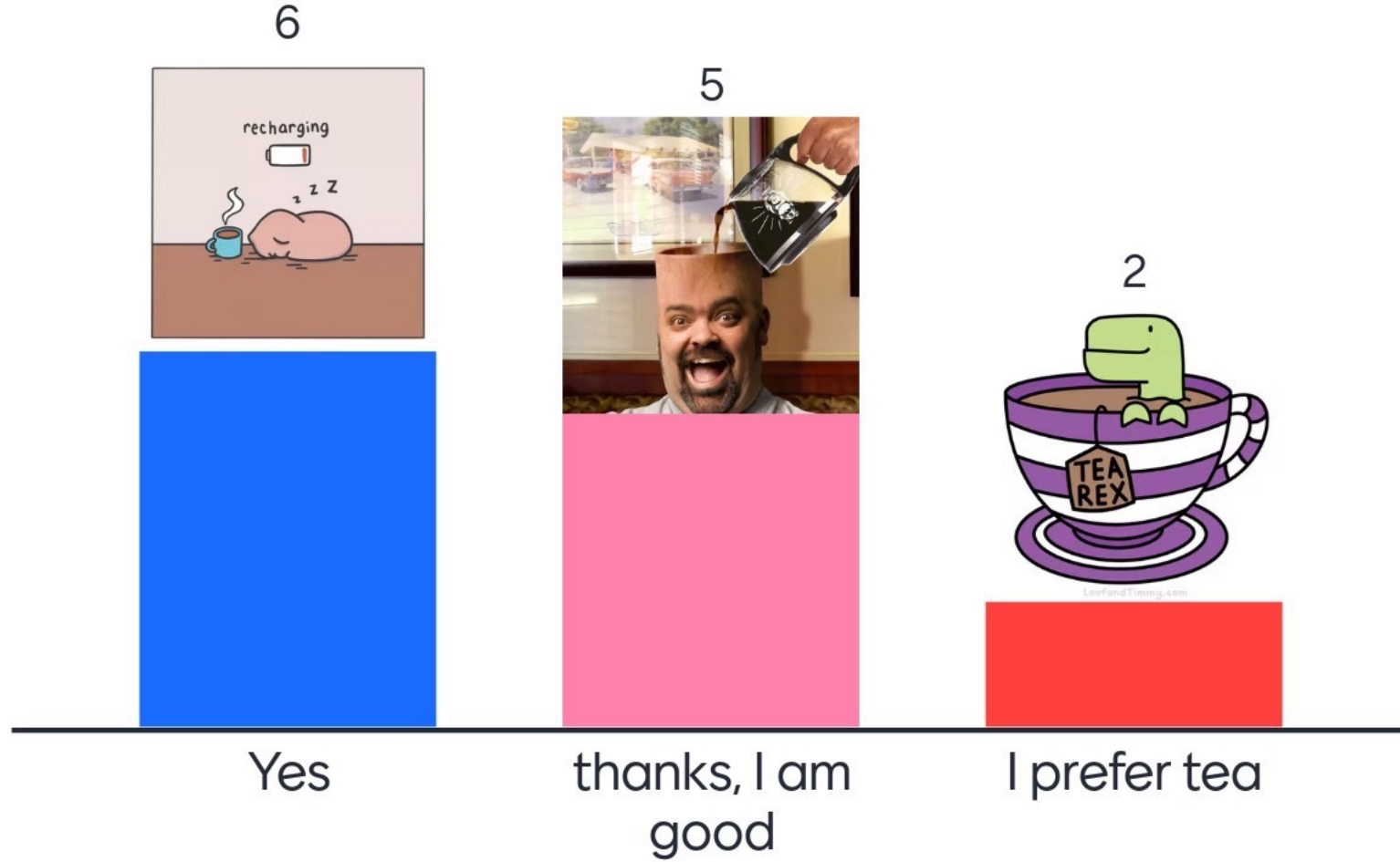
Titel

Abstract

Referenzen [?]

- Realized by TIB and SLUB Dresden
- implements a recommendation service for quality-assured open access journals

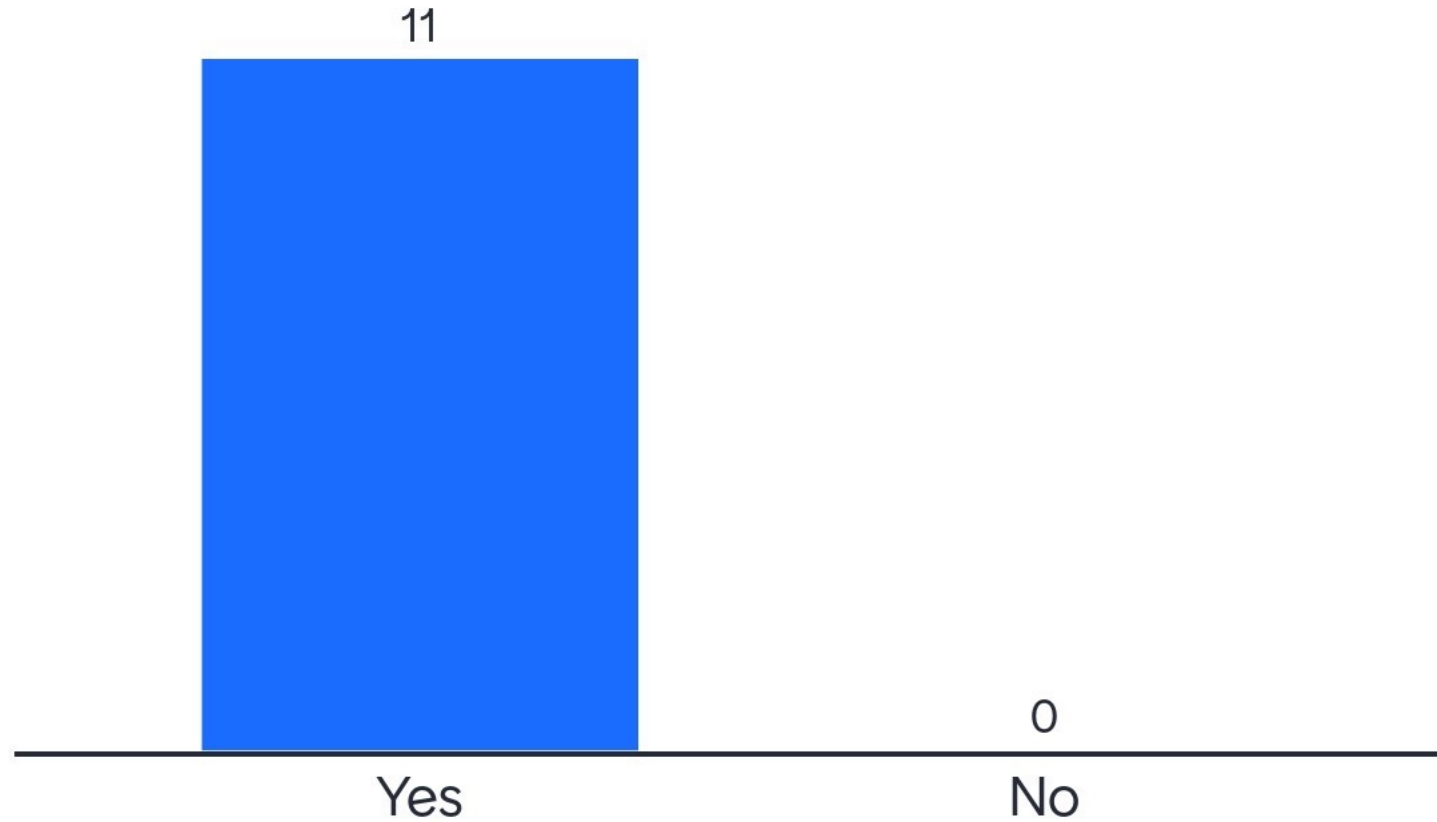
Do you need a coffee?



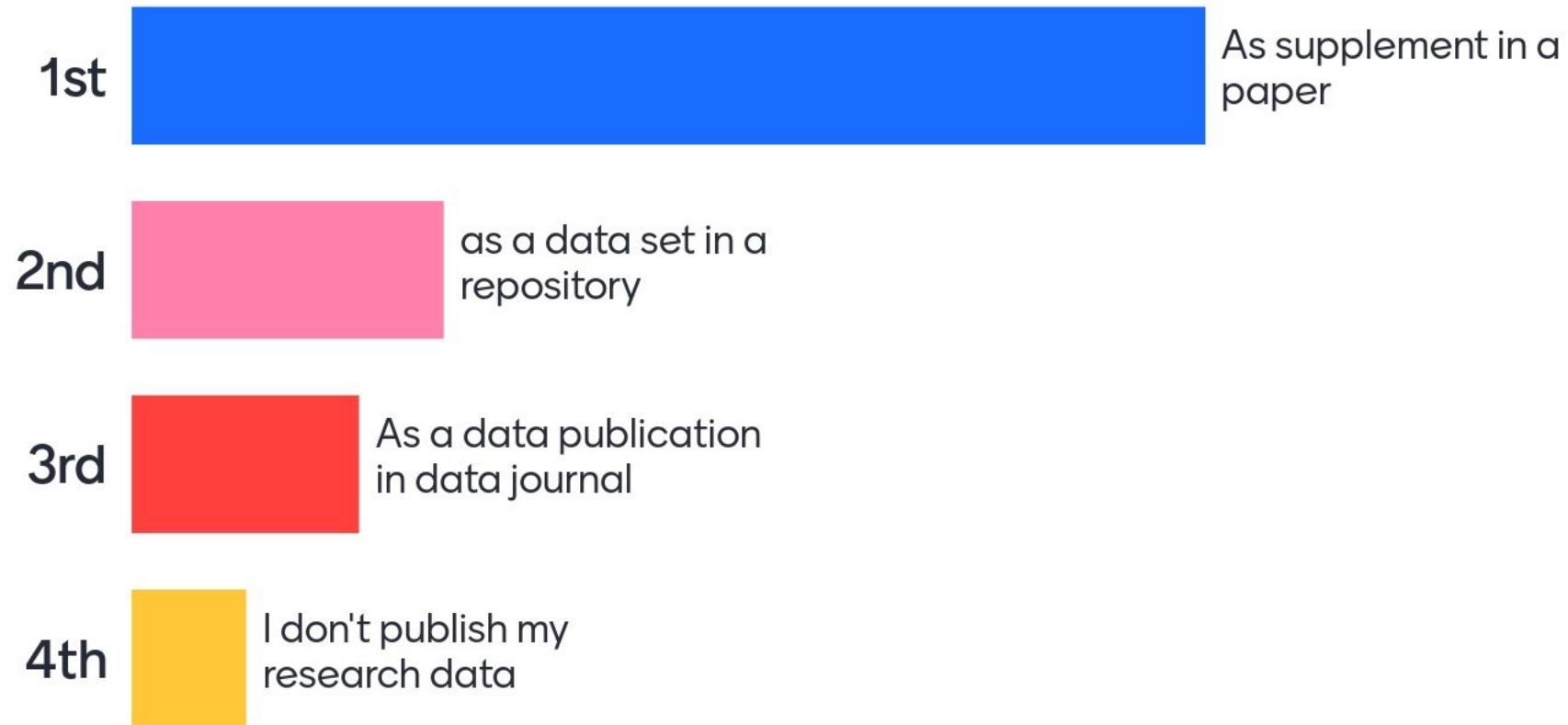
What obstacles do you see in publishing Open Access? or What concerns do you have?



Have you ever had problems getting access to data (e.g. from a paper) relevant to your research?



How do you publish your research data?



Open Data

Open Access

unrestricted and free access to scientific information

Open Data and Research Data Management

Systematic collection, management, processing, analysis, annotation, storage, archiving, and post-usable publication of all data from the research process

Open Data = an international request

Berlin Declaration on Open Access (2003)

“Open access contributions include original scientific research results, raw data and metadata, source materials, digital representations of pictorial and graphical materials and scholarly multimedia materials.”

Policy paper

G8 Open Data Charter and Technical Annex

Published 18 June 2013

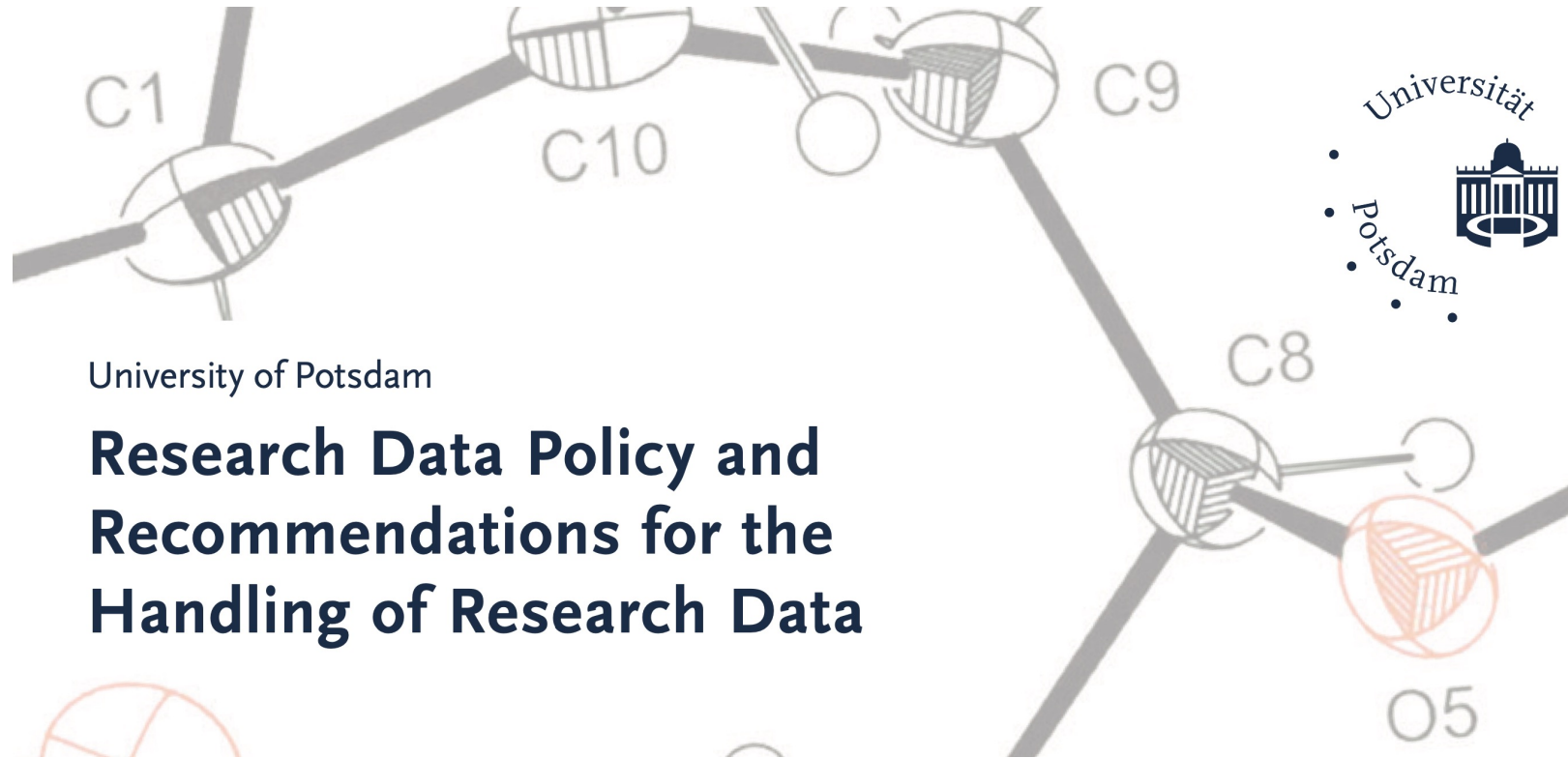
Contents

1. Principle 1: Open Data by Default
2. Principle 2: Quality and Quantity
3. Principle 3: Usable by All
4. Principle 4: Releasing Data for Improved Governance
5. Principle 5: Releasing Data for Innovation
6. Technical annex

DFG Deutsche
Forschungsgemeinschaft

DFG Guidelines on the Handling of Research Data

Data policy Uni Potsdam



University of Potsdam

Research Data Policy and Recommendations for the Handling of Research Data

The Research Data Policy of the University of Potsdam has been ratified by Senate on September 25, 2019

<https://doi.org/10.25932/publishup-44438>

FAIR DATA principles

Findable
Accessible
Interoperable
Reusable

Open Science – Open Data Initiatives



Coalition for Publishing Data in the Earth & Space Sciences

Statement of Commitment (Verpflichtungserklärung)

- Earth and space science data should, to the extent possible, be deposited in appropriate discipline-specific data repositories that follow best practices for data curation.
- Signed by all relevant publishers used for Earth science publications.

Kerstin Lehnert, *Columbia University*

Brooks Hanson, *AGU*

Shelley Stall, *AGU*

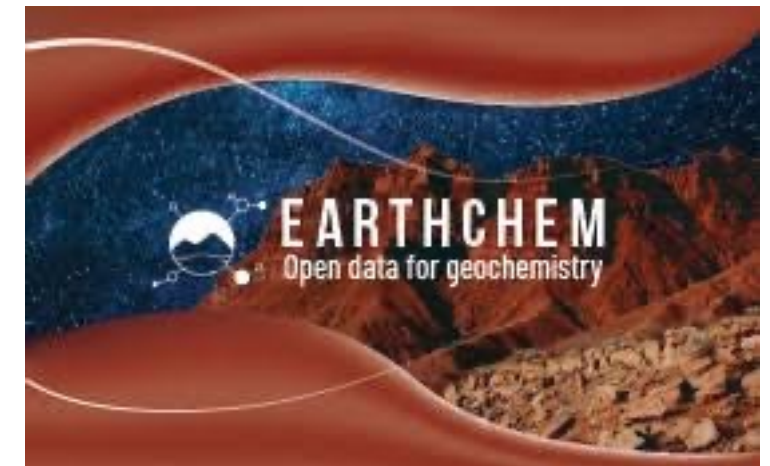
Lesley Wyborn, *ANU*



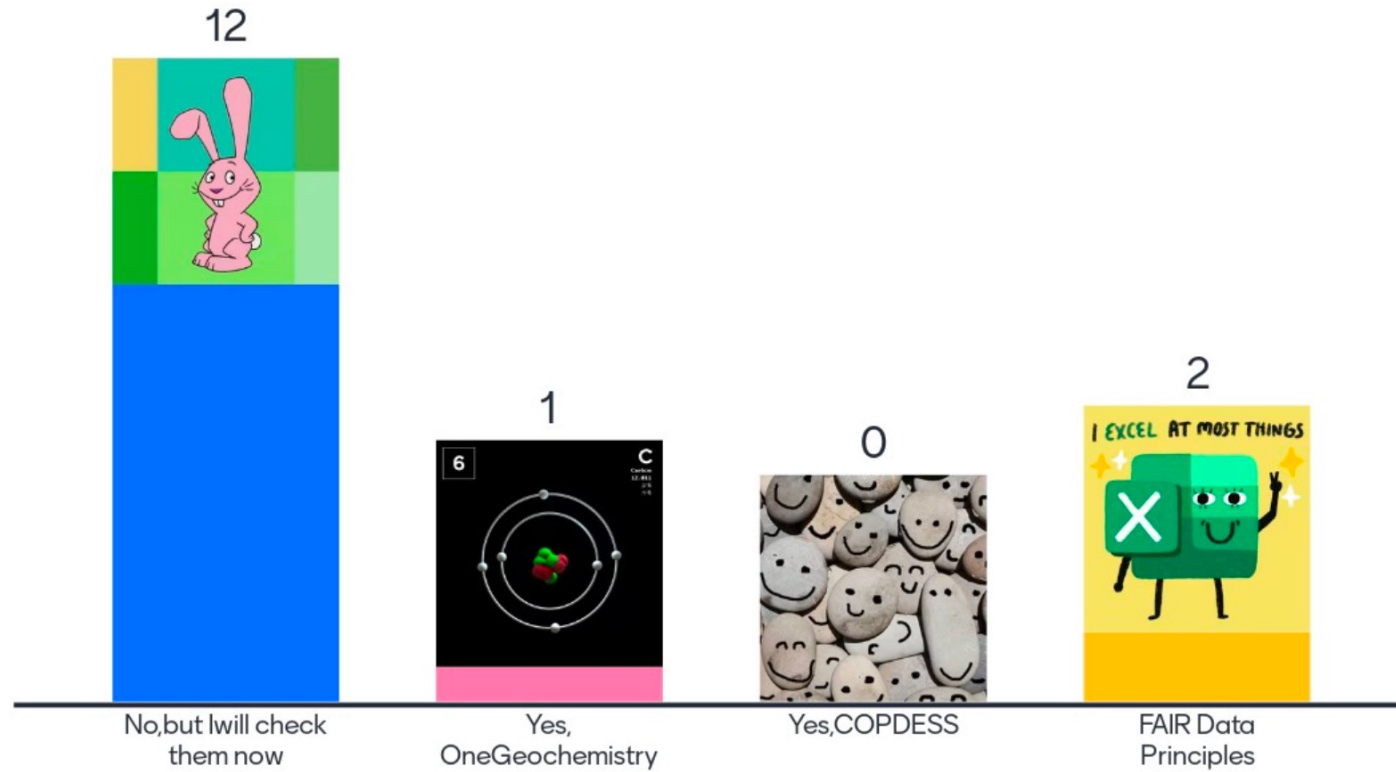
Open Science – Open Data Initiatives



OneGeochemistry Initiative seeks to create a **global geochemical data network** that facilitates and promotes discovery and access of geochemical data through coordination and collaboration among international geochemical data providers.



Did you already know one of the just presented initiatives?



This is the End



www.fidgeo.de



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news-on@fidgeo.de

 [@fid_geo](https://twitter.com/fid_geo)



FID GEO aktuell: Nutzungsempfehlung zu ORCID iD

DOI: <https://doi.org/10.23689/fidgeo-5386>