

Why do Open Science?

Introduction

SIS Idea Lab 22nd of June 2022

@HiltrunWalter

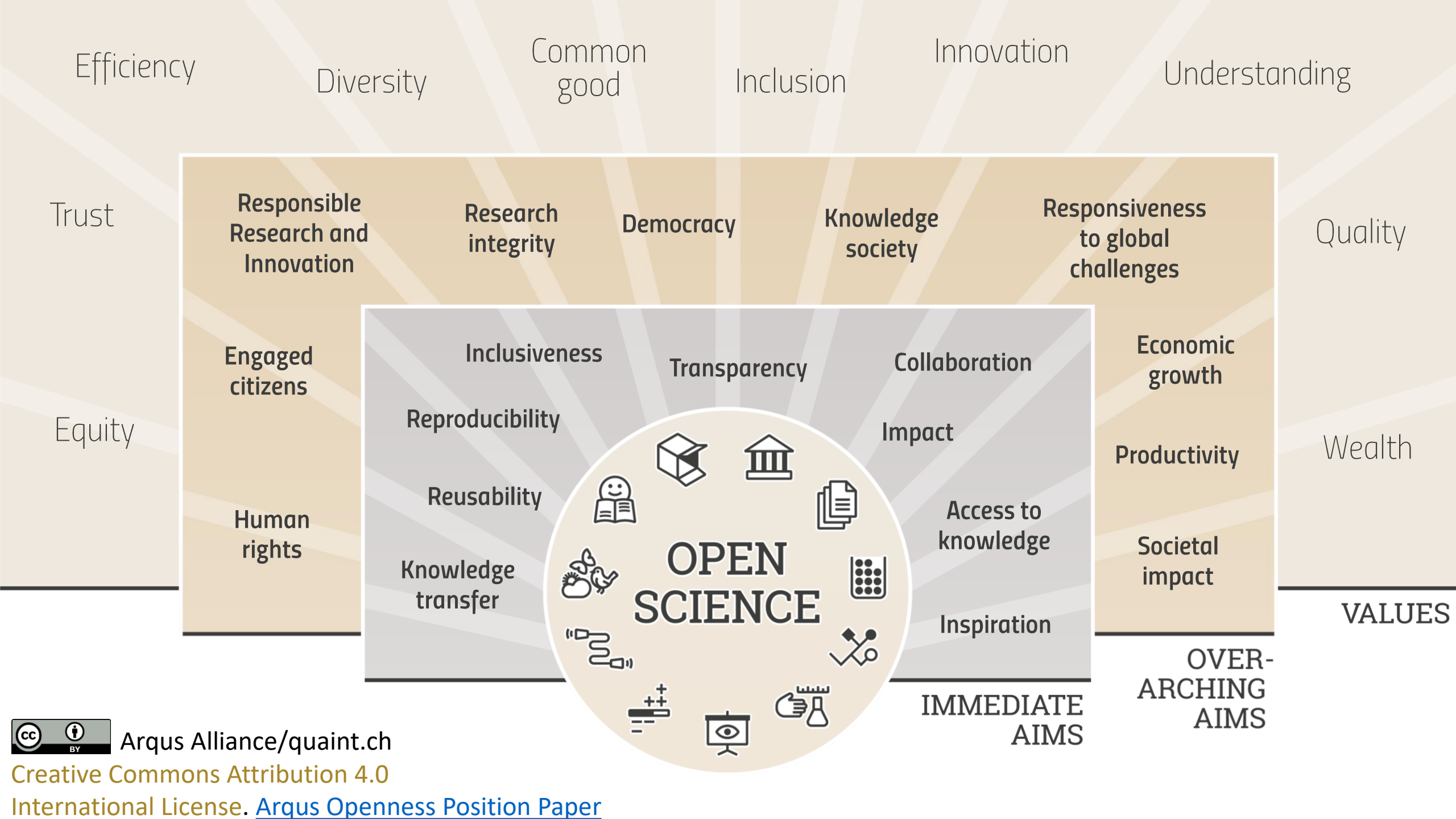
The 7th faculty: Center for Society, Science and Communication

Why care about Open Science?

What is open science good for?

Vision

Aims & values



Arqus Alliance/quaint.ch

Creative Commons Attribution 4.0

International License. [Arqus Openness Position Paper](#)

Open Science – a new paradigm

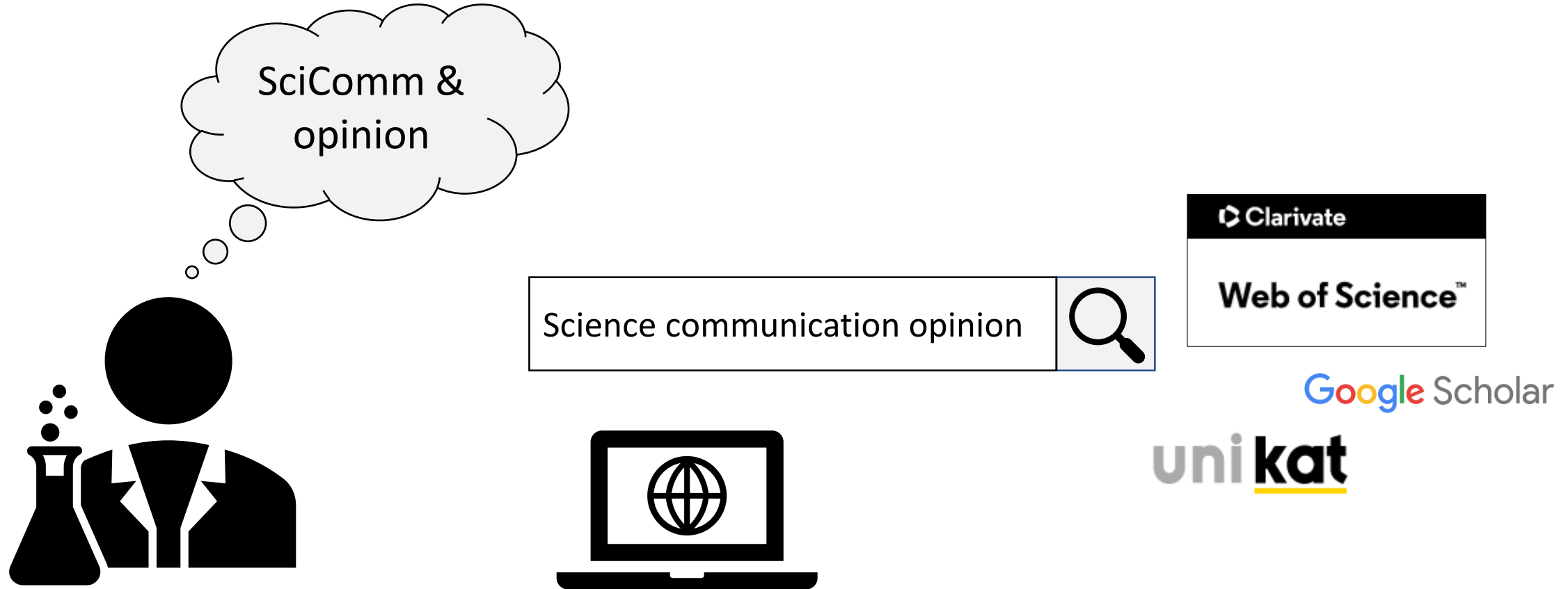
„While guaranteeing the academic freedom, research integrity and scientific excellence, Open Science sets a new paradigm for the scientific enterprise by opening scientific contents, tools and processes based on increased reproducibility, transparency, sharing and collaboration.“

(UNESCO, Recommendation on Open Science, 2021)

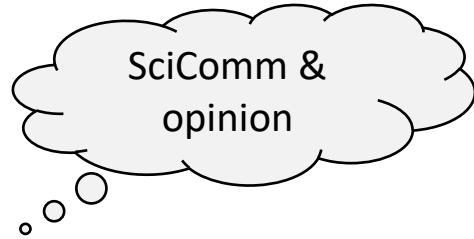
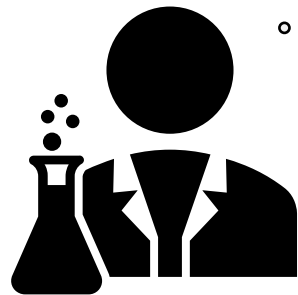
Who cares about Open Science?

Perspectives on usability of OS - examples

Why OS? From a scientist's point of view



Why OS? From a scientist's point of view



Science communication opinion



Google Scholar



unikat

Google Scholar

science communication opinion



Artikel

Ungefähr 3 290 000 Ergebnisse (0,08 Sek.)

[Twitterati and Paperati: evidence versus popular **opinion** in **science communication**](#)

[Á MacNamara, D Collins - 2015 - bjsm.bmj.com](#)

Science communication has traditionally been the remit of peer-reviewed journals with information being shared, almost exclusively, within the academic community. For those working at the coalface the limited scope of this traditional discourse in terms of access and ...

☆ Zitiert von: 14 [Ähnliche Artikel](#) [Alle 8 Versionen](#)

Why OS? From a scientist's point of view

The screenshot shows the BMJ Journals website interface. At the top, there is a navigation bar with links for 'Subscribe', 'Log In', 'Log out', and 'Basket'. A search bar is also present. Below this is a green header for the 'British Journal of Sports Medicine' with navigation links for 'Latest content', 'Current issue', 'Archive', 'For authors', 'Resources', and 'Podcasts'. The main content area features a 'Request Permissions' section with a button and explanatory text. Below this is a 'Copyright information' section. At the bottom, a section titled 'Read the full text or download the PDF:' contains three buttons: 'Buy this article (€36)', 'Subscribe', and 'Log in'. An orange arrow points to the 'Buy this article' button, which is labeled 'Paywall'.

Google Scholar **BMJ** Journals [Subscribe](#) [Log In](#) [Log out](#) [Basket](#) [Search](#) [Advanced search](#)

Artikel **British Journal of Sports Medicine** [Latest content](#) [Current issue](#) [Archive](#) [For authors](#) [Resources](#) [Podcasts](#)

Request Permissions

If you wish to reuse any or all of this article please use the link below which will take you to the Copyright Clearance Center's RightsLink service. You will be able to get a quick price and instant permission to reuse the content in many different ways.

[Request permissions](#)

Copyright information: Published by the BMJ Publishing Group Limited. For permission to use (where not already granted under a licence) please go to <http://group.bmj.com/group/rights-licensing/permissions>

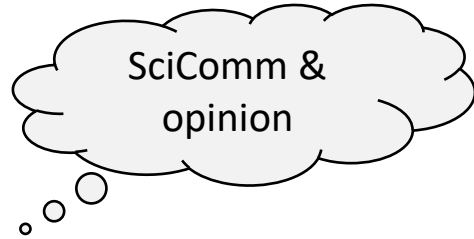
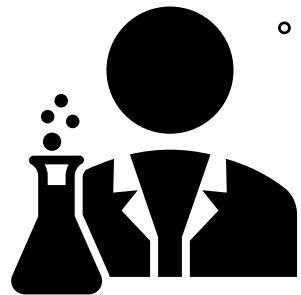
Read the full text or download the PDF:

[Buy this article \(€36\)](#) [Subscribe](#) [Log in](#) [▼](#)

Paywall →

Why OS? From a scientist's point of view

Example: Open Access



Science communication opinion



Clarivate

Web of Science™

Google Scholar

unikat

Google Scholar

science communication opinion



Artikel

Ungefähr 3 290 000 Ergebnisse (0,08 Sek.)

[Twitterati and Paperati: evidence versus popular **opinion** in **science communication**](#)

[Á MacNamara, D Collins - 2015 - \[bjsm.bmj.com\]\(#\)](#)

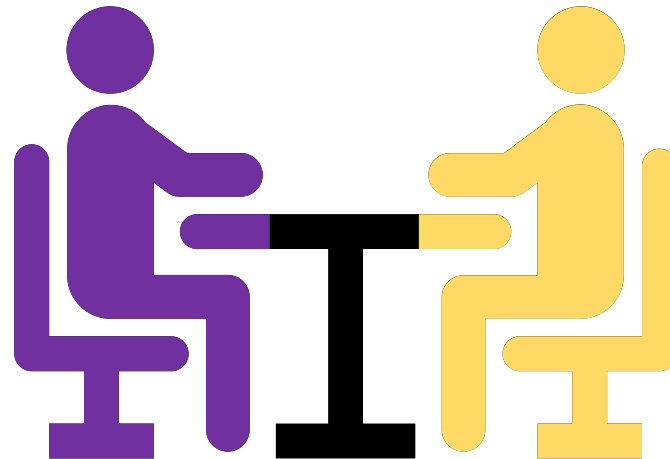
Science communication has traditionally been the remit of peer-reviewed journals with information being shared, almost exclusively, within the academic community. For those working at the coalface the limited scope of this traditional discourse in terms of access and ...

☆ Zitiert von: 14 [Ähnliche Artikel](#) [Alle 8 Versionen](#)

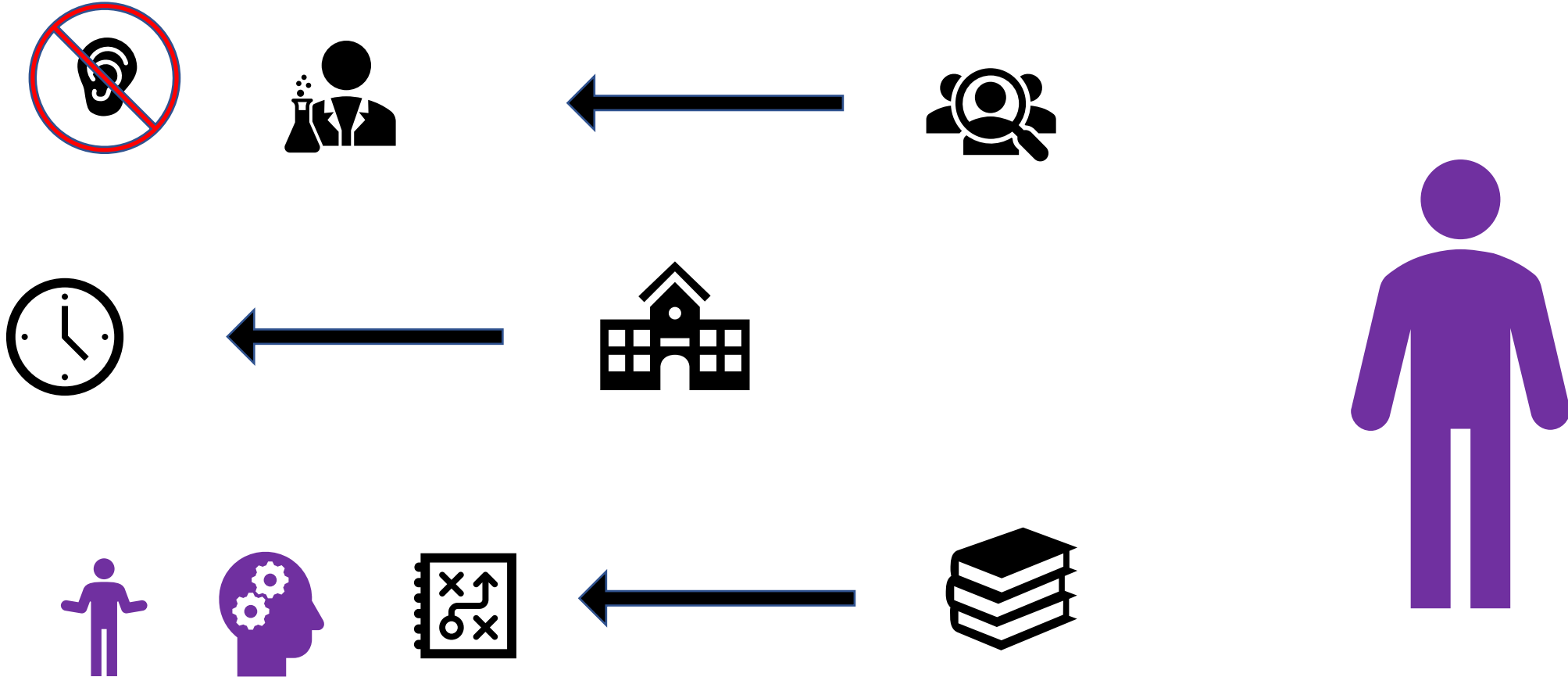
Why OS? From the perspective of the population

Did you hear that researcher xy said on the news that it will mainly affect the unvaccinated?

They don't know anything about it and only make themselves important.

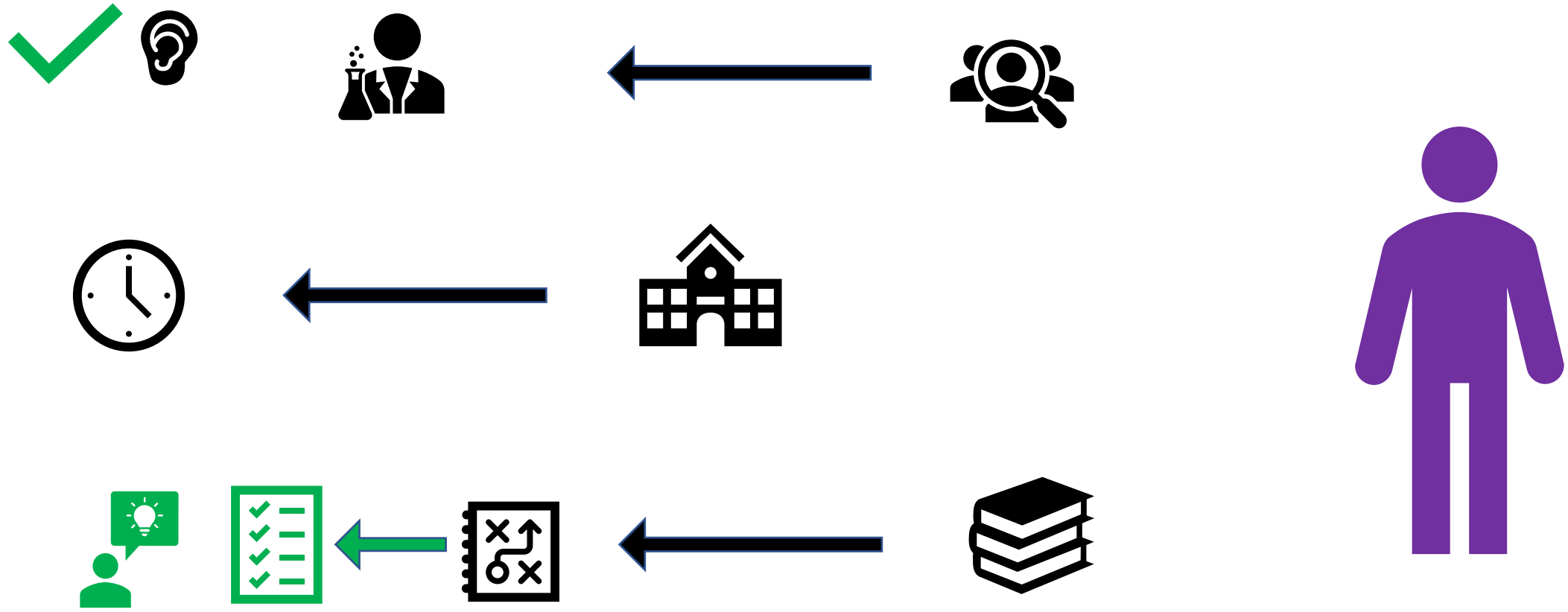


Why OS? From the perspective of the population



Why OS? From the perspective of the population

Example: access to data, SciComm and OS assessment criteria



Why OS? From an economic's perspective



Start-Ups, companies

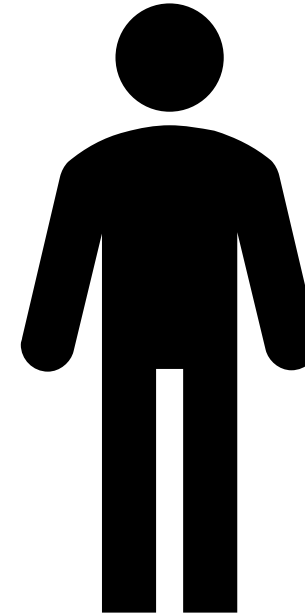
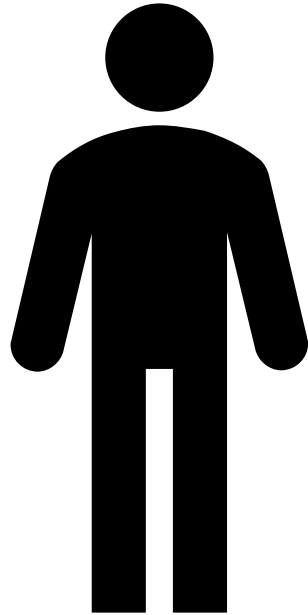
Open Innovation,
Stakeholder Engagement



Open knowledge &
open results



Innovation



Open data



Economic benefit



Expertise

What is Open Science?

Definition

Elements of OS

Aims & values

What is Open Science?

- Open Science (OS) is an overarching concept, a paradigm
- Aim: to break down barriers in all areas of research for the benefit of both, research and society
- OS encompasses best practices, principles and goals
- OS stands for transparency, reproducibility, completeness, accessibility, trustworthiness, participation and inclusion in all parts of the scientific process
- OS aims to increase the efficiency of research by making scientific knowledge findable, accessible, interoperable and reusable, thereby accelerating progress and discovery for the common good.

UNESCO-Definition ‚Open Science‘

Open Science

„Open Science is defined as an inclusive construct that combines various movements and practices aiming to make scientific knowledge openly available, accessible and reusable for everyone, to increase scientific collaborations and sharing of information for the benefits of science and society, and to open the processes of scientific knowledge creation, evaluation and communication to societal actors beyond the traditional scientific community.“

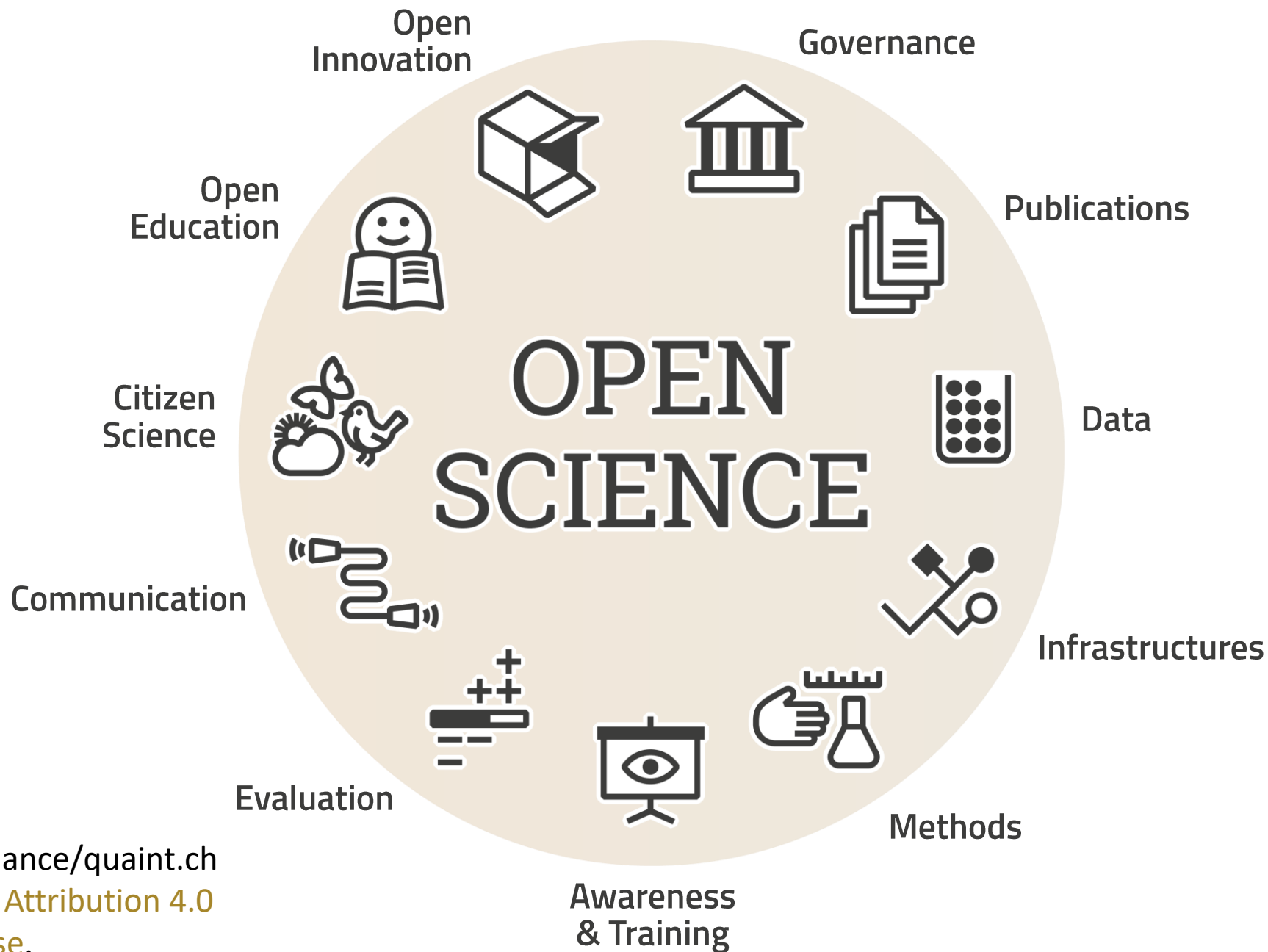
(UNESCO, Recommendation on Open Science, 2021)

UNESCO-Definition ‚Open Science‘

Open Science

„It includes all scientific disciplines and aspects of scholarly practices, including basic and applied sciences, natural and social sciences and the humanities, and builds on the following key pillars: open access to scientific knowledge, open science infrastructures, open science communication, open engagement of societal actors and open dialogue with other knowledge systems.“

(UNESCO, Recommendation on Open Science, 2021)



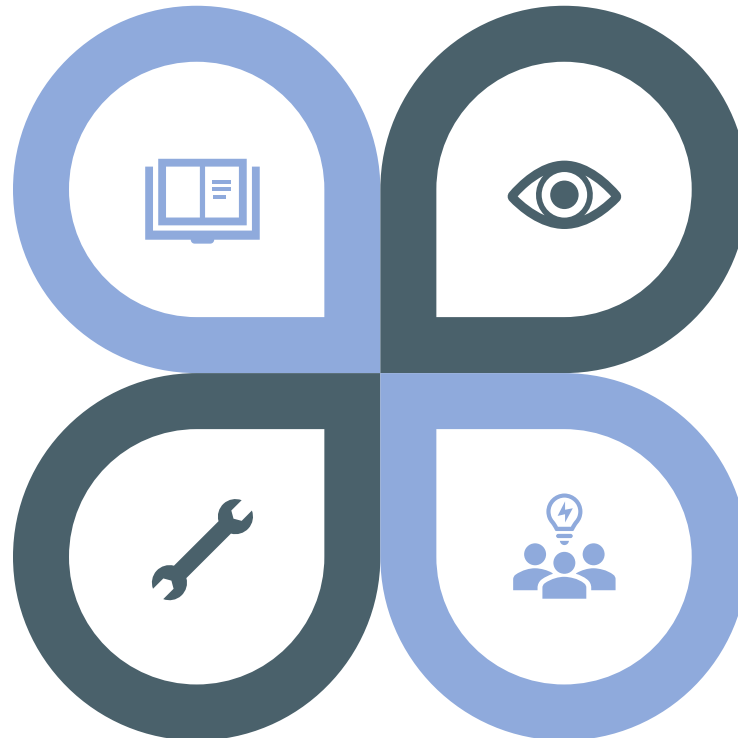
Arqus Alliance/quaint.ch

Creative Commons Attribution 4.0
International License.

[Arqus Openness Position Paper](#)

Areas of Open Science

openly accessible knowledge



transparent and solid research

open research process

participatory research

Areas of Open Science

openly accessible knowledge



- ✓ Results are accessible without barriers
- ✓ **Open Access** – no paywall for readers (and authors)
- ✓ **SciComm** – communicate understandable
- ✓ Multilingual, multicultural – adapted to local society
- ✓ **Open Educational Resources (OER)**

Areas of Open Science



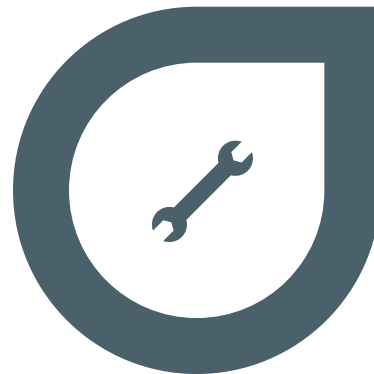
transparent and solid research

- ✓ Open science can foster efficiency of research
- ✓ **Open Data** – publication of research data enables verifiability, reproducibility and re-use
- ✓ **Open Peer Review** – Open evaluation procedures enable quality assurance and fair conditions

Areas of Open Science

- ✓ Open science can foster efficiency of research
- ✓ **Open Data** – publication of research data enables verifiability, reproducibility and re-use
- ✓ **Open Peer Review** – Open evaluation procedures enable quality assurance and fair conditions

open research process



Areas of Open Science

- ✓ Fairness, efficiency
- ✓ **Open Infrastructure** – Equal opportunities by free access to infrastructures
- ✓ **Open Methods** – Transparency and reproducibility of the research process through freely accessible lab books, research protocols and programme code



participatory research

Thank you!

hildrun.walter@uni-graz.at