



Issues of open science and licensing from a practical perspective in academic research

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University policies

Define obligations, incentives, resources to achieve the desired goal.

Key issue for success: enactment by researchers and their specific communities (science as a self-regulated environment).

If Open science = Excellent science (as understood by the academic community)

Then solve practicalities

Else work also on their alignment with their perceived values

Open science = Excellent science

Science as a process & Science as a common good

Organised skepticism, universalism, communalism, disinterestedness

Tensions:

- Associated with the **publishing industry**:
 - closed access to research results, potential abuse of community work (such as review processes), transparency concerns
 - aimed to be solved with open access policies, repositories, open journals, etc with mixed success.
- **Inclusiveness** (who does research, who determines priorities, who benefits from advances in research, etc)
 - critical studies, diversity policies, etc also with mixed results.

Open science in the context of computational science

New objects as part of the scientific practice:

- Prominence of **data** required to reproduce, replicate and advance knowledge.
- **Software** as the codification of research methods.
- **Tools** to conduct or access research (development frameworks, platforms...).

The Open Source community provided narratives and solutions (e.g. licenses) to Excellent Science narratives and practices

Main tensions

- Previous ones (publishing industry, inclusiveness).
- Reward of **individual achievement** in academic progression, specially in contexts of growing scientific collaboration, diversity of roles needed to conduct research.
 - DORA, COARA (e.g. to recognise different types of impacts).

Power dynamics mostly internal to the scientific domain, self-governance.

- **From regulation:** Digital Services Act – delegated act on data access

Open science = AI-driven excellent science?

The screenshot shows the top navigation bar of The Guardian website. The main menu includes News, Opinion, Sport, Culture, and Lifestyle. Below the menu is a secondary navigation bar with categories like World, Europe, US, Americas, Asia, Australia, Middle East, Africa, Inequality, and Global development. The article title is "Deus in machina: Swiss church installs AI-powered Jesus". The author is Ashifa Kassam, a European community affairs correspondent. The article is dated Thursday, 21 November 2024, at 19:04 CET. A share button is visible below the author information. The main image shows the interior of a church with wooden paneling and a modern, illuminated structure.

Artificial intelligence (AI)

Deus in machina: Swiss church installs AI-powered Jesus

Peter's chapel in Lucerne swaps out its priest to set up a computer and cables in confessional booth

Ashifa Kassam *European community affairs correspondent*

Thu 21 Nov 2024 19.04 CET

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Open science = AI-driven excellent science?

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Open science = AI-driven excellent science?

Science as a process

Science as a common good

- Complexity (data, algorithms, training, models, hardware...) to validate, study, modify or reproduce results - process.
- Dependence on development frameworks, infrastructures **external** to the academic community.

AI as **part of** scientific processes (even as “generator” or evaluator of scientific evidence).

Ongoing academic discussions – what is excellent science? Openness a required condition? Which elements of “openness” are shared between science and open source communities?

Open science = AI-driven excellent science?

Science as a process

Science as a common good

Potential tensions common to the open source community:

Relevance of **external power dynamics** that impact the self-regulation of the academic domain. Influence of big corporations on the academic field:

- Reproducibility / replicability at scale – validation process. Scientific method.
- Direct influence (funds, data, talent, capture of open results).
- Indirect influence (narrative generation, societal demands, research directions, aspirations of newcomers to science).
- Inclusiveness: Who can participate in science, what science is prioritised.
- Disinterestedness: impede access to knowledge. Even citizen science is captured (crowds “privately” captured).
- Knowledge production as a collective process: difficulties in the processes of licensing (e.g. attribution) – open source community provided solutions before.