

Info Sheet What is Open Science?

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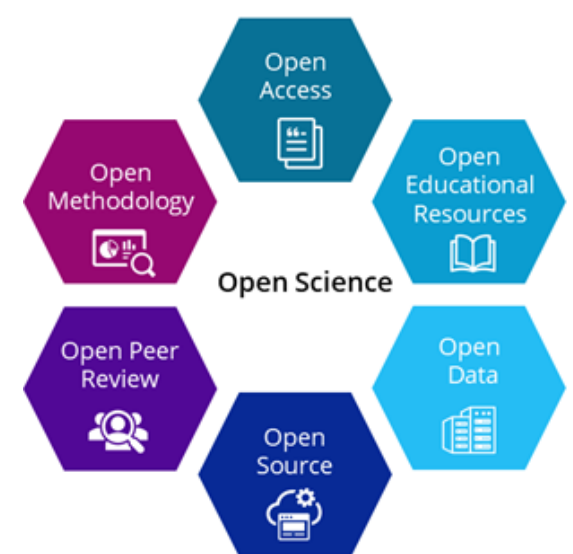
Open Science aims to make the **entire scientific process from the initial idea to the final publication** as **comprehensible** and **re-usable** as possible for everyone. It stands for:

- a holistic approach to open practices in research
- ensuring **transparency, accessibility, and interoperability** at all stages of the research process
- providing **access to research results** as openly as possible
- facilitating **participation** and **accessibility** for a broader audience to research data, methods, software tools, and other resources of scientific practice

2. Six Principles of Open Science

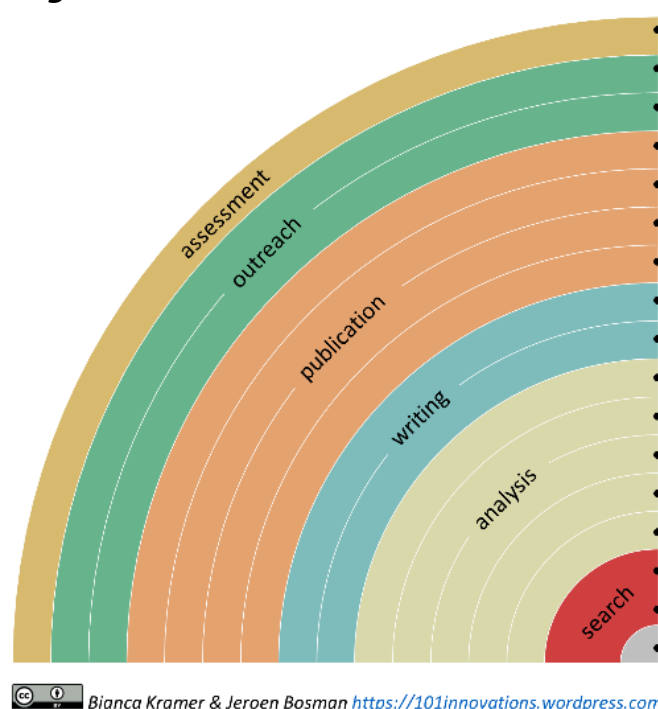
Open Science is based on six principles to make scientific processes more open and transparent (openscienceASAP, o. J.):

Open Methodology: Documenting the application of methods and the process behind them
Open Source: Using open-source technology (soft and hardware) and make one's own technologies open
Open Data: Providing open access to research data
Open Access: Free and unrestricted access to scientific information on the internet (see Budapest Initiative)
Open Peer Review: Transparent and comprehensible quality assurance through open peer review
Open Educational Resources: Reuse of open materials for education and university teaching



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3. Practices in Open Science: You can make your workflow more open by...



- adding alternative evaluation, e.g. with altmetrics
- communicating through social media, e.g. Twitter
- sharing posters & presentations, e.g. at FigShare
- using open licenses, e.g. CC0 or CC-BY
- publishing open access, 'green' or 'gold'
- using open peer review, e.g. at journals or PubPeer
- sharing preprints, e.g. at OSF, arXiv or bioRxiv
- using actionable formats, e.g. with Jupyter or CoCalc
- open XML-drafting, e.g. at Overleaf or Authorea
- sharing protocols & workfl., e.g. at Protocols.io
- sharing notebooks, e.g. at OpenNotebookScience
- sharing code, e.g. at GitHub with GNU/MIT license
- sharing data, e.g. at Dryad, Zenodo or Dataverse
- pre-registering, e.g. at OSF or AsPredicted
- commenting openly, e.g. with Hypothes.is
- using shared reference libraries, e.g. with Zotero
- sharing (grant) proposals, e.g. at RIO



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