

UNESCO Recommendations on Open Science

The Open Science movement comprises a multifaceted effort to enhance the accessibility of scientific data and publications. The movement aims to both facilitate collaboration among researchers and to remove barriers that impede access to scientific information among the general public.

At the 40th session of UNESCO's General Conference, held in November of 2019, member states called for the development of Recommendations on Open Science. The [resultant draft document](#), released for comment in 2020, "outlines a common definition, shared values, principles and standards for Open Science at the international level and proposes a set of actions conducive to a fair and equitable Open Science transition at individual, institutional, national, regional and international levels."

Recommended Actions (with select examples excerpted from draft)

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| 1 Promote a common understanding of Open Science and diverse paths to Open Science. | <ul style="list-style-type: none"> Encourage Open Science practices within publicly funded research. | <ul style="list-style-type: none"> Engage the private sector in discussion about the ways in which the scope of Open Science principles and priorities can be enlarged and mutually shared. |
| 2 Develop an enabling policy environment for Open Science. | <ul style="list-style-type: none"> Foster equitable public-private partnerships for Open Science. | <ul style="list-style-type: none"> Include citizen and participatory science as integral parts of Open Science. |
| 3 Invest in Open Science infrastructures. | <ul style="list-style-type: none"> Invest in reliable internet connectivity and bandwidth for use by scientists and science-users across the world. | <ul style="list-style-type: none"> Invest in platforms for the exchange and co-creation of knowledge between scientists and society. |
| 4 Invest in capacity building for Open Science. | <ul style="list-style-type: none"> Invest in and promote advanced education and the professionalization of roles in data science and data stewardship. | |
| 5 Transform scientific culture and align incentives for Open Science. | <ul style="list-style-type: none"> Ensure that the practice of Open Science is a known, well-understood and standardized element in academic recruitment and promotion criteria. | <ul style="list-style-type: none"> Support collaborative publishing models with no article processing charges. |
| 6 Promote innovative approaches for Open Science at different stages of the scientific process. | <ul style="list-style-type: none"> Promote Open Science as an enabler of innovation, with the objective of accelerating the transformation of scientific results for social, economic, and environmental benefits. | |
| 7 Promote international cooperation on Open Science. | <ul style="list-style-type: none"> Establish regional and international funding mechanisms for promoting and strengthening Open Science. | <ul style="list-style-type: none"> Promote cooperation among countries in capacity building for data management and stewardship and to prevent the exploitation and misuse of open data across borders. |

Guiding Principles

The draft also provides "guiding principles" to achieve the ideals of open science. They include: transparency, scrutiny, critique and verifiability; equal opportunities and access; respect, responsibility and accountability; collaboration, participation and inclusion; flexibility; and sustainability.