MUNICH MANIFESTO FOR EQUITABLE OPEN RESEARCH

The Manifesto is intended for all Open Research [OR] contributors, and particularly institutions, funders, industry and policymakers responsible for developing OR governance and infrastructure. We take OR to encompass practices in all domains of expertise (including humanities, arts, social sciences and non-academic contributors) that enable members of the wider society to scrutinize, contribute to, and reuse the processes and outputs of research. OR therefore includes elements typically associated with open science (e.g. open publishing, data, methods, software, education and peer review) as well as trustworthy and secure research environments, access to equipment, archive and materials, contributions from local and indigenous knowledge, and relevant forms of research assessment and funding. Our perspective is informed by qualitative research on research conditions and researchers' perspectives across a variety of locations and domains, consultation with numerous research organisations, and philosophy and social studies concerning equity and quality in research.

Urgent global challenges demand transnational cooperation, placing the value of intelligent strategies and formats for OR beyond doubt. OR fuels discovery in ways that promote high-quality innovation, societal engagement and trust in research processes and findings, and the ability to respond effectively to complex problems. Key to realising OR's potential is equity, which we define as *ensuring that the experiences, methods and findings of research contributors are visible and valued regardless of geographical provenance, material resources, institutional status, social background or personal attributes*.[1] And yet, the world of research is far from equitable.

National and international policies tend to implement OR guidelines, tools and principles in a top-down manner and across domains, with scarce consideration of the diverse capacities, motivations and methods characterising different research communities. Typically, OR tools are produced by the best-resourced research environments, which thereby set the goals that those tools are meant to serve, and define what counts as relevant standards and methods. In consequence, already advantaged contributors end up benefiting disproportionally from OR, which may in turn widen disparities in the research landscape, making some forms of expertise more visible than others regardless of their scientific and societal value. Such inequity is made worse by the widespread reliance of OR initiatives on digital systems. Digital technologies, including databases, repositories, web services and AI-powered tools, are key vehicles for sharing research. However, they also demand distinctive expertise, resources and skills that many researchers around the world do not possess, either due to local constraints or to the irrelevance of such expertise for their own goals and circumstances.

This has significant consequences for the content and quality of research. Well-documented forms of discrimination and disparities in resources affect which voices are heard, which findings are pursued and recognised, and which methods are considered as best practice. Such divides are compounded by

[1] E.g. UNESCO Recommendation on Open Science (2021), United Nations Declaration on Open Science (2025) https://www.un.org/scientific-advisory-board/en/open-science and Barcelona Declaration on Open Research Information (2024) https://barcelona-declaration.org/downloads/BarcelonaDeclaration.pdf.

for-profit exploitation of OR initiatives that negatively affect the trustworthiness and sustainability of OR (such as the monetisation of open access publishing or the AI-driven scraping of data shared online), and the failure to reward commercial initiatives committed to enhancing equity within the global research community. The quest for universal computational tools serving any kind of user, such as general-purpose AI, fuels a tendency to overlook the diverse needs of researchers. In the absence of meaningful consultation with users, the drive towards common standards and unified digital platforms may result in silencing significant contributions and excluding relevant perspectives, thus ultimately skewing scientific results and lowering the quality of the knowledge being produced. Some forms of OR thus risk compounding the very problems they promise to solve.

We maintain that research communities and organisations bear a shared responsibility to manage the unintended consequences of how OR is implemented, and actively enhance participation in OR design, development and governance. OR initiatives gain quality and resilience from tracking diverse research conditions around the globe and across domains, and actively supporting a plurality of circumstances and goals. This requires substantial investment, local engagement, responsiveness to the societal dimensions of inquiry, and attention to what forms of expertise should be included, and for which purposes, in the practice and governance of research. Specifically, OR requires **domain- and location-specific input** on researchers' needs and constraints as well as **institutional mechanisms** to implement equitable responsiveness to this input. Without such input and mechanisms, OR initiatives risk amplifying dangerous forms of discrimination in the production, use, and evaluation of knowledge, thereby damaging the research system instead of delivering improvements. This is a missed opportunity to capitalise on the commitment to dialogue, reciprocal learning and sustainable knowledge creation characterising many OR participants, as well as their ability to substantively improve research systems to support planetary health.

In what follows, we identify five key priorities for OR initiatives to ensure responsiveness to both global needs and local perspectives. These priorities are:

DIVERSITY: research contributors' capacity to be different or varied in ways that affect the development and/or understanding of knowledge

RESILIENCE: the long-term dependability and sustainability of OR initiatives

ENGAGEMENT: regular and consequential dialogue with a wide range of stakeholders

JUSTICE: the moral framework through which rights, duties and resources are distributed and deployed by researchers and research institutions

HONESTY: the ability and willingness to candidly and explicitly articulate the fragilities, vulnerabilities and limits of OR systems and procedures, including security concerns, inequity, exclusions, possible misuse, and constraints on format and interoperability.

Realizing the promise of OR requires actively fostering these priorities. Relevant measures and training need to be shared by all participants in the research system, including research communities and organisations, funding bodies, industry, public agencies and civil society organisations. In what follows we briefly outline each priority and related recommendations.

CORE ELEMENTS FOR EQUITABLE OPEN RESEARCH

1. DIVERSITY

Diversity, understood as exhibiting variety in ways that affect the development and/or understanding of knowledge, is essential to research evaluation, advancement and creativity. Relevant expertise is found across all disciplines and domains, as well as in local knowledge held by skilled communities around the world. Diversity in research encompasses not just a variety of opinions, but of the coexistence of different systems of practice — each with its own combination of methods, goals, standards of evidence, and socio-cultural contexts. Debate and exchange among diverse research systems is crucial to upholding the quality, reliability and innovation potential of OR.

To encourage and recognise diversity in OR, we recommend:

- investing in domain-specific empirical studies of research conditions and impact
- regularly evaluating existing systems of research assessment in light of such studies
- acknowledging and rewarding relevant expert knowledge, including from communities operating outside established institutional settings
- identifying and explicitly articulating tensions in research values and priorities
- supporting openness across public and private institutions, and avoiding singling out publicly funded institutions as the sole target for OR policies and assessment

2. RESILIENCE

Resilience in OR concerns the long-term dependability and sustainability of OR initiatives, which are integral to building stable research communities and achieving high-quality, robust and valid research outcomes. A key aspect of resilience is the long-term maintenance of both digital and analogue OR infrastructures, such as repositories, collections, databases and modelling tools.

To enhance the resilience of OR initiatives, we recommend:

- investing in domain-specific studies of the role, impact and costs of research infrastructures
- regularly evaluating the robustness, sustainability, relevance and inclusivity of existing hardware, software, semantics and modes of maintenance and use, including for proprietary digital services
- conducting periodic audits comparing existing solutions against emerging standards and community benchmarks
- expanding infrastructures by consulting with a diverse pool of experts, experimenting with novel approaches, and engaging with a wide range of relevant publics
- investing in curation (including maintenance, repair and updates) to ensure long-term usability and environmental sustainability for existing infrastructures
- incentivising rigorous stewardship for research infrastructures and results, including comprehensive metadata for data and sample collection
- encouraging foresight practices such as scenario modelling, risk assessment, observatories, and the exploration of forefront and counter-cultural spaces of innovation

3. ENGAGEMENT

Engagement in OR involves regular dialogue with a wide range of stakeholders, which is vital to the quality, diversity, resilience and impact of OR and its related infrastructures.

To support meaningful engagement with OR initiatives, we recommend:

- explicitly stating, and regularly reassessing, the intended use for OR resources, methods, and infrastructures
- providing opportunities for interactions with OR processes, infrastructures and outcomes, including through regular consultations and feedback channels
- prioritising OR procedures and tools that support trustworthy exchanges among individuals and communities, and actively discouraging exploitative practices such as uncredited data extraction
- supporting users' ability to utilize OR processes and outcomes for a wide variety of purposes, and seeking user input on the meaning, significance, and impact of existing tools
- investing in and learning from metascience, social science, and humanities scholarship that document the changing demands, expertise and perspectives of research participants

4. JUSTICE

Justice in OR consists of the moral framework through which rights, duties, credibility and resources are distributed and deployed by researchers and research institutions. Cases of injustice include, for instance, the discrimination of researchers based on personal attributes or location; and the exclusion of contributors with relevant expertise but no access to reliable infrastructures or institutional support. Existing forms of injustice are damaging to the quality and trustworthiness of OR, and must be considered and addressed when developing and implementing OR practices. At the very least, mitigation measures are required to ensure that OR initiatives do not worsen the divides, discrimination, and inequities already plaguing the global research landscape.

To foster just and responsible OR, we recommend:

- investigating the history and impact of injustice and discrimination in OR, including social and material barriers to participation
- identifying and acknowledging the views of research communities with divergent scientific goals and means, for instance by establishing protocols to attest and validate knowledge claims concerning vulnerable groups
- supporting academic freedom via frequent opportunities for respectful, constructive exchange
- supporting the development of commons and other forms of intellectual property geared towards fair use and just rewards for contributors
- ensuring meaningful representation for marginalised voices to identify tensions among stakeholders and potential harm stemming from OR initiatives, and to propose solutions
- identifying and rewarding substantive participation in OR in ways that are recognised by relevant institutions and funders

- fostering ethical assessment of the potential benefits and harms of OR initiatives, including the cumulative effects of adding individual projects to the broader landscape of OR tools
- establishing social and environmental safeguards, including liability measures to deal with dual use and misuse of OR practices and infrastructures
- identifying paths for potential misuse to prevent risks, monitor compliance with established safeguards, and promote trust

5. HONESTY

Honesty in OR consists of the ability and willingness to candidly and explicitly articulate the fragilities, vulnerabilities and limits of OR initiatives, including security concerns, inequity, exclusions, possible misuse, and constraints on format and interoperability. Such vulnerabilities can never be fully avoided or prevented, especially given unforeseeable shifts in geopolitical, economic and technological developments, and the unanticipated effects of the ever-evolving landscape of interacting research activities. OR initiatives must identify and regularly reassess potential sources of vulnerability, make efforts to inform participants, and adapt their strategy accordingly.

To promote honesty within OR, we recommend:

- documenting the history and governance of OR initiatives, with clear indications of who created them, who habitually participates and uses them, who controls their ongoing development and outcomes, and who bears responsibility for errors or misuse
- highlighting and regularly reassessing the positionality, legacy, and intended goals of OR initiatives, including who may benefit from them, and how beneficiaries may change over time
- explicitly declaring and regularly reassessing OR limitations and constraints, including through documented examples or illustrative use cases
- considering governance mechanisms to monitor access and intended use, and to control or limit such access where appropriate – for instance, by prioritizing findability over direct accessibility to socially sensitive materials and practices
- establishing clear accountability procedures for the development and use of OR tools (including AI), and enforcing penalties for developers, curators and users who fail to follow established guidelines and are responsible for breaches in privacy, regulation, and governance arrangements
- investing in cybersecurity to reduce the risk of unwanted uses, such as anonymization breaches and socially or environmentally harmful forms of data extraction

CITATION

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CALL TO ACTION: SIGNATORIES AND VERSIONING

This Manifesto aims to spur global efforts towards improving equity in OR. This involves moving beyond definitions of OR that are centred on the natural sciences and are focused primarily on improving access to research outputs. Instead, we advocate paying closer attention to the human agency, social relations and infrastructures underpinning OR practices. Our key audiences are institutions and individuals who are involved in (1) OR governance and funding; (2) infrastructure design, development and maintenance; and (3) everyday deployment of OR solutions.

Sympathetic readers, including both individuals and institutions, can add their signature to the Manifesto by clicking here: https://opensciencestudies.eu/for-2026-conference/munich-manifesto/

In the spirit of openness and pluralism that underpins this document, we invite readers with views that differ from those expressed here to create their own version of a Manifesto for Equitable OR and send it to us, thereby documenting the rich diversity of global OR experiences and perspectives. We shall collect all versions on the website www.opensciencestudies.eu as a testimony to the existing diversity of interpretations and solutions to the challenge of equity in OR, and the significance of considering viewpoints from a wide variety of backgrounds and locations.

BACKGROUND AND ACKNOWLEDGMENTS

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We acknowledge and thank the hundreds of colleagues active in OR who have engaged with us over the last decade. The research findings underpinning the views expressed in this Manifesto are available on the project website: www.opensciencestudies.eu/publications. This document reflects only the authors' views and the Commission / Agency is not responsible for any use that may be made of the information it contains.