

### Introduction

Between April 2015 and June 2016, members of the Open Access Network Austria (OANA) working group "Open Access and Scholarly Communication" met in Vienna to discuss this matter. The main outcome of our considerations is a set of twelve principles that represent the cornerstones of the future scholarly communication system. They are designed to provide a coherent frame of reference for the debate on how to improve the current system. With this document, we are hoping to inspire a widespread discussion towards a shared vision for scholarly communication in the 21st century.

Source: <https://viennaprinciples.org/index.html>

### The Vienna Principles

- 1. Accessibility:** Scholarly communication should be immediately and openly accessible by anyone.
- 2. Discoverability:** Scholarly communication should facilitate search, exploration and discovery
- 3. Reusability:** Scholarly communication should enable everyone to effectively build on top of each other's work.
- 4. Reproducibility:** Scholarly communication should provide reproducible research results.
- 5. Transparency:** Scholarly communication should provide open and transparent means for judging the credibility of a research result.
- 6. Understandability:** Scholarly communication should provide research in a clear, concise and understandable way adjusted to different stakeholders.
- 7. Collaboration:** Scholarly communication should foster collaboration and participation between researchers and their stakeholders.
- 8. Quality Assurance:** Scholarly communication should provide transparent and competent review.
- 9. Evaluation:** Scholarly communication should support fair evaluation.
- 10. Validated Progress:** Scholarly communication should promote both the production of new knowledge and the validation of existing knowledge.
- 11. Innovation:** Scholarly communication should embrace the possibilities of new technology.
- 12. Public Good:** Scholarly communication should expand the knowledge commons.

### The Vienna Principles

## Vienna PRINCIPLES

a vision for scholarly communication

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|-------------------|---------------------|-----------------------|
| 1 Accessibility   | 5 Transparency      | 9 Evaluation          |
| 2 Discoverability | 6 Understandability | 10 Validated Progress |
| 3 Reusability     | 7 Collaboration     | 11 Innovation         |
| 4 Reproducibility | 8 Quality Assurance | 12 Public Good        |

### Deficits: Restricted Access & Collaboration

- Research results are often not publicly accessible even if they have been funded by the public.
- Highly relevant research materials from publicly funded archives, museums, libraries and statistical inventories are either not available in digital form or inaccessible.
- {fa-square}} Restricted access to and delayed dissemination of scholarly results limit knowledge transfer to researchers and other members of society.
- Production of scholarly knowledge often happens in a closed system excluding expertise and experiences of scholars outside academia and other members of society. This is detrimental to research and restrains innovation.
- Due to closed modes of communication, opportunities for collaboration among various actors remain unexploited.
- Research output is often communicated in a highly abstract domain-specific language, preventing knowledge dissemination to other research fields and to other members of society.

### Lack of Reproducibility & Transparency

- The majority of research results cannot be reproduced due to lack of underlying data, process instructions and context information.
- Adequate contextual information is often missing, making it difficult to determine whether a piece of research is credible and can be built upon.
- Evaluation by peer review has a mighty filtering function but is often untransparent and potentially biased.
- There has been a rise in retractions as a result of flawed practices, as well as (un)conscious wrongdoing.

### Technical and Legal barriers

- Research products (data, materials, source code, etc.) often cannot be reused due to technical and legal restrictions (e.g. copyright).
- Overly restrictive copyright transfer agreements impede knowledge circulation, and contribute to an oligopoly of publishers and information service providers

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Page 2 of 2.

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