



International
Science Council

ISC Future of Scientific Publishing Project: Purpose, Process and Action

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Essential attributes of scientific publishing

Scientific fundamentals

Maintaining rigour by making concepts and evidence openly available to be tested against reality, logic and the scrutiny of peers.

Communicating the results of scientific inquiry into the public sphere promptly, and circulating them efficiently to maximize their availability to all who may wish or need to access them.

Scientific responsibilities

To be globally inclusive, with none left behind, a voice for all, and sensitive to diverse perspectives.

Ideas, evidence and data to circulate freely, quickly and efficiently, disseminated widely and deeply, and openly available for sceptical scrutiny, application and re-use.

Preservation for future generations.

Adapting to change

Digital technologies have enlarged opportunities for discovery, communication and dissemination.

Need to adapt to the implicit “social contract” for science to social and political expectations of science and its role in the global public good.

Project Remit

PHASE 1

- What do we need from scientific publishing and what should be its principles?
- How does the current system work?
- Does it serve essential principles?
- Is reform needed? If so, for what priorities?

POSSIBLE PHASE 2

- Actions to achieve reform

Feedback on first ISC Action Plan

Topic ranked amongst the top concerns of members

Timelines

Phase 1: Analysis

Q2
2020

March: Scoping Group created with the remit to advise on an ISC project

May – June: Drafting text

Q3
2020

July: Formal review

July-August: Draft 2 circulated to ISC Members with survey of responses to principles

October: Publication: *Business models and market structure*

September: Virtual meetings of ISC Members

Q4
2020

October: Text revised

November: Draft 3 endorsed by the Governing Board

December: Further revision prior to publication

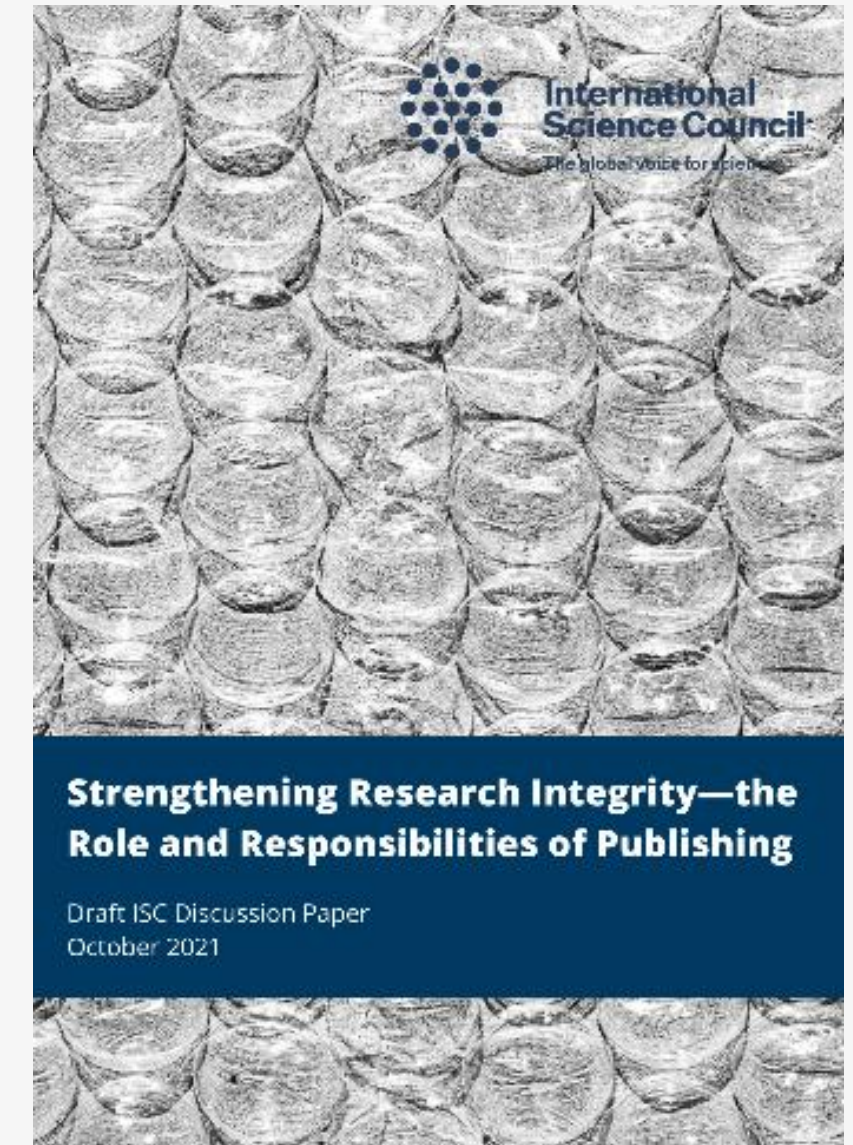
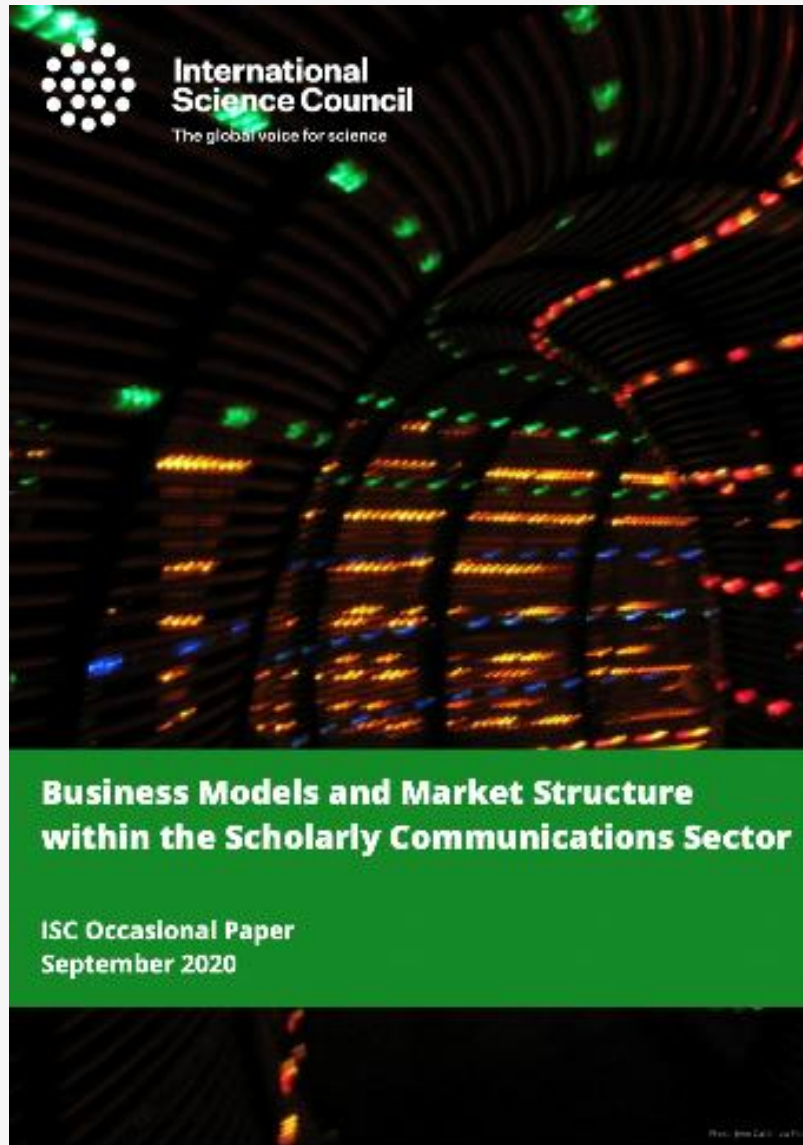
2021

February: Publication: *Opening the record of science: making scholarly publishing work for science in the digital era*

September: In review for publication: *Strengthening research integrity: the role and responsibilities of publishing*

Publications

Major report and occasional papers on specific issues



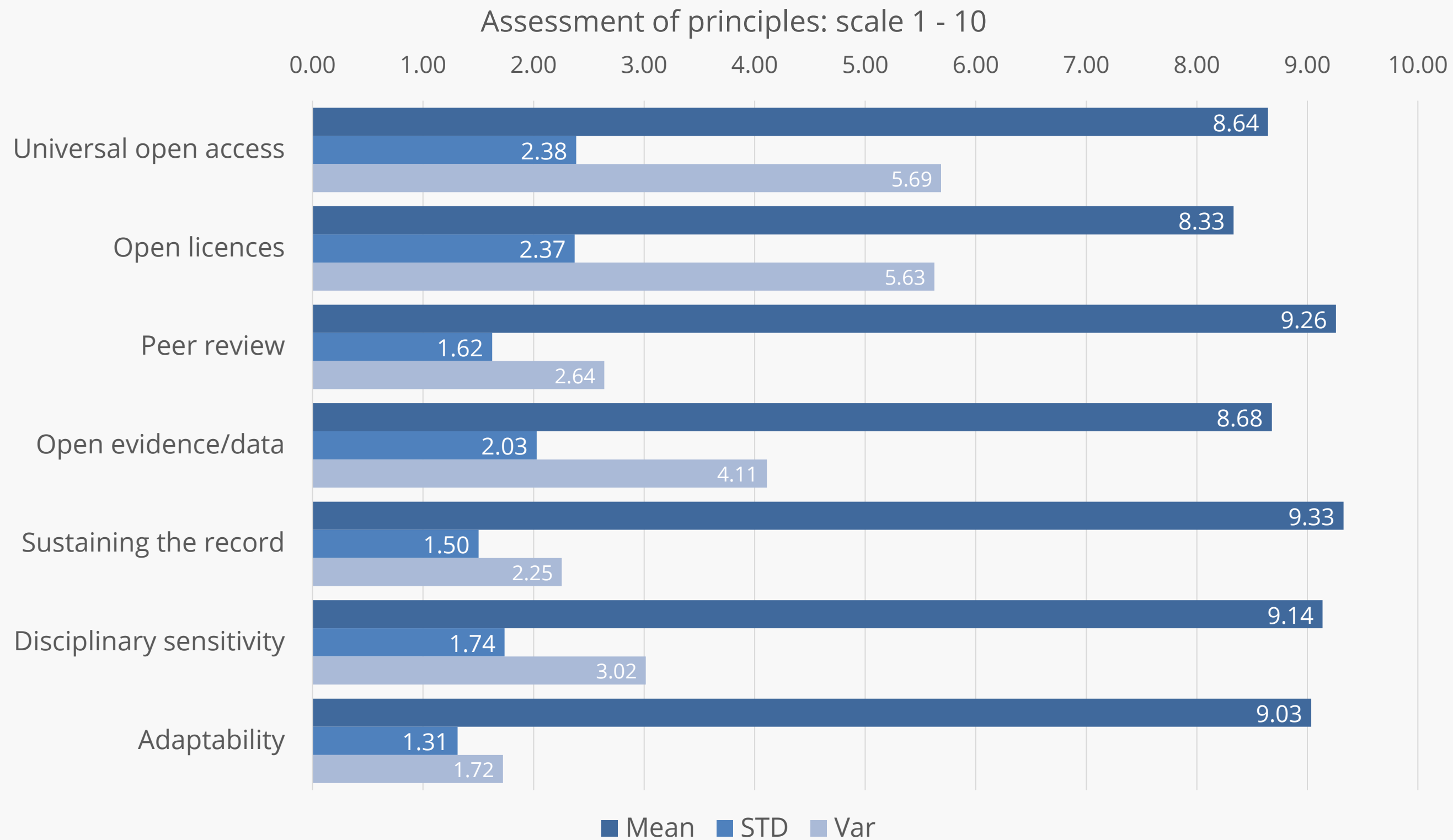
Principles for scientific publishing

Opening the Record of Science.

- I. Affordable, universal open access
- II. Open licensing of the record of science
- III. Rigorous, efficient, timely peer review
- IV. Concurrent publication of data and evidence (FAIR)
- V. Maintaining the record of science
- VI. Respecting the needs of disciplines and regions
- VII. Adaptability to new opportunities
- VIII. Accountability to the scientific community



Science Community Assessment



Does the current publishing system serve essential principles?

Deficits

- I. Access is not universal for readers and authors, whether in academia, industry of civil society. It fragments the science community
- II. Much of the record of science is privatized & inaccessible to discovery tools
- III. Peer review is foundering under pressure and ill-adapted to many needs
- IV. Data is a first-class output of science, too much is lost or unusable
- V. With the demise of the physical library of record, how do we maintain the record of science for the future
- VI. The needs of some disciplines are not sustainably supported, there is poor interoperability between them
- VII. Opportunities for new digital modes of publication not fully utilised
- VIII. Private technology platforms invade science governance and assessment with proprietary algorithms monitoring researchers, institutions and entire fields of research.

Activities to October
2021

Phase 2: Action for Reform

Timelines

March
2021

March: Appointment
of Steering Group

Q2-3
2021

April - September:
Development of
position paper,
action plan and
networking

October
2021

October: Creation of
advisory group of
science publishers

October
2021

October:
Presentation to
General
Assembly

Options for reform

Normalize

Rapid communication to disciplinary peers through preprint servers.

Overlay processes

Innovative approaches to peer review and quality control

Rights retention strategies and open licences

Concurrent deposition of relevant data/evidence in line with FAIR principles as a condition of publication.

Develop and implement

Business models that support 8 principles and diverse publication modes

A sustainable business model for learned society open access publication

Reform peer review

Platform-agnostic discovery services

Global curation infrastructures for the Record of Science

A record of versions, not a version of record

Reform incentives away from bibliometrics

Governance

International organizations as custodians of the scientific interest

Compliance and audit of agreed standards (8 principles)

Adhere to UNESCO open science values

Foreground academic institutions

Build on robust, distributed, community controlled infrastructures

Not to prescribe but to enable creative innovations, for example:

“The Journal is dead, but if it’s not, it should be. Journals are unnecessary with online publishing. Using a journal to restrict access is outrageous.”

R. Terry. World Health Organization.



Phase 2: Strategy

A coalition of common purpose with:

- Critical Mass
- Critical diversity

Two key dimensions:

- Disciplinary spectrum
- Geographic distribution

Mapping of potential partners:

- ISC Members and their members
- Other international science bodies (IAP, GYA, TWAS)
- Science funding bodies and their networks
- Universities/Institutes and their networks
- Libraries
- Coalition S
- Open access networks (COAR, W3C, ORC etc)
- UNESCO
- Repositories & data bodies (CODATA, WDS, RDA etc)

A value proposition for all

Project end-point: sustainable change - 2024

Request to ISC members: engage and contribute

Get in touch



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