



OPEN SCIENCE, OPEN SCHOLARSHIP AND STM

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What is STM?

- Voice of Global Scholarly Publishing
- Trade association founded October 1968/9
- 150+ member companies in 23 nations
 - 40% Americas, 48% EMEA, 12% APAC
- Members are:
 - Not for profit, university presses, private companies
 - Large, medium & small, new start-ups and existing players
 - Open access & subscription publishers
- Members publish over 67% of ALL scholarly articles worldwide each year

Open Science, Open Scholarship?

- Political declarations have used “science” and OS has become the internationally recognised term
- STM has many AHSS publishers whose researchers use “open research” and “open scholarship” for the same thing
- For “Science” in Open Science” understand *scientia* in the historical sense

G7* Science Ministers' Communique

Tsukuba, 17 May 2016

- [Recognize] importance of Open Science as a driver for greater inclusion in R&D, for example .. citizen science
- Open science enables broad and straightforward access to and use of the **results of publicly funded research** (e.g. **scholarly publications** and resultant **data sets**) not only for academics, but also the private sector and the general public more broadly
- Establish a working group on open science.. coordinating as appropriate with the Organisation for Economic Co-operation and Development (OECD) and Research Data Alliance (RDA)

* France, US, UK, Germany, Japan, Italy, Canada, European Union

Global approaches to open science



- Open Access policy
- Open Data Concordat
- Industrial Strategy



- 5th Basic Plan, 2016-2020
- JST and JSPS OA policies
- Japan Science Cloud under discussion



- OSTP memo
- NIH Data Science Initiative
- NAS

European Commission and open science

European Commission's 3 main policy goals for research and innovation are open innovation, open science and open to the world



- **Open Science Policy Platform → recommendations based on 8 priorities:**

- FAIR Data

- Rewards

- Publishing models for OA

- Research integrity

- Open Science Cloud

- Citizen Science

- Alternative Metrics

- Skills & Training

STM and Open Science

In the area of Open Science, STM members have four strategic objectives:

1. make access to and use of ALL research outputs and research artefacts easier
2. make doing Open Science and the entire process of scholarly communication easier
3. focus on quality, trust and integrity in the research process
4. provide simple and intuitive user experiences

Connecting Open elements: driving visibility



Open Science

Empowering Knowledge™



Elsevier partners with the research community to empower open science. Working together, we can achieve a more inclusive, collaborative and transparent world of research. We believe open science can benefit research and society and drive research performance. Here are some of the ways in which we are supporting open science.



We provide platforms and partner in programs that facilitate collaboration. We help bring other stakeholders, including the public, into the world of research.

We are helping raise the bar on reproducibility, enabling researchers to share their methods and data and to gain more complete insights into research performance.

There are more options for researchers to share more kinds of research outputs than ever before. We support a more open and inclusive research experience through our journals, tools and platforms.

Current Projects by STM in Open Science

- FAIR Research Data,
 - FAIR=FAIR Research Data Champion
- SCHOLIX
- Partner in the EU Coalition of the OS Do-ers
- Shared Infrastructure for Peer Review
- Reproducibility badges
- Trust and Integrity projects
- Methods Hub/ Methods metadata&discovery

Research Data – FAIR=FAIR

- **Aim:** *easier sharing of research data, ensuring that data is always linked to publications, proper data citation, easy submission of data and publications*
- **Involvement STM members:** *so far from Elsevier, SpringerNature, Wiley*
- **Other stakeholders:** *EU, EOSC, OSPP, RDA, WDS, Codata, Funders, 22 partners in F=F*
- **Timeline, milestones:** *F=F project starts March 2019 and runs for 4 years as a 10 m EUR project to boost FAIR data, is an important cornerstone for the new EOSC infrastructure for research data*
- **STM involvement:** *STM invited as a candidate for demonstration projects as a EU Research Data Champion*

SCHOLIX: Universal linking of research data with publications

- **Aim:** *Operational reference framework for universal linking between research data and publications*
- **Involvement STM members:** *mainly Elsevier and SpringerNature*
- **Other stakeholders:** *Crossref, DataCite, OpenAire plus 20+ project partners (Codata, WDS, RDA)*
- **Timeline, milestones:** *soft launch in 2016, ongoing development and implementation, see www.scholix.org*
- **STM involvement:** *was a founding partner of SCHOLIX, role now: increase support for outreach and implementation*

OS Coalition of the do-ers in the EU

- STM is collaborating with other stakeholders in the Open Science Coalition on 4 pillars to enhance linking between research data and research literature with the objective to make Research Data FAIR:
 - Data Availability Statements for research journals
 - Easy submission of research data to repositories alongside article submissions to journals
 - Data citation standards and good practice
 - SCHOLIX linking framework (see previous slide)

Initiatives from Springer Nature to support data sharing

- **Research data helpdesk**
 - Free support: Our team of research data editors gives free advice on how and where to share your research data, according to your specific research community
- **Research Data Support service**
 - Optional author service: Knowing how to make your data useful, findable and get the credit you deserve takes a lot of time and effort. expert research data editors will organise, curate and deposit your files in a useful and accessible way
- **Research data publishing:**
 - Nature Research's Scientific Data and BMC Research Notes are two of our open access, online-only journals that publish article summaries of scientifically valuable datasets.
- **Research data community**
 - Free network: Our growing community of advocates for the sharing of research data is a great place to interact with other researchers, read the latest information on research data and help us make research data sharing the new normal.



<https://www.springernature.com/gp/authors/research-data>

Transparent, Transportable Peer Review

- **Aim:** *increased transparency of peer review process and quality, transportable peer review across different publishers*
- **Involvement STM members:** *exploratory pilot project by Digital Science, CUP, SpringerNature, T&F, run by Katalysis*
- **Other stakeholders:** *ORCID, Crossref, Wellcome Trust*
- **Timeline, milestones:** *2018 proof of concept, 2019 prototype for a shared ledger containing a peer review register, seeking to scale up with more participants in 2019, and then open to all, see www.blockchainpeerreview.org*
- **STM involvement:** *participation by STM to support consultation and feedback, promotion, scaling up and demonstrating Open Science*

Reproducibility Badges

- **Aim:** *common definitions for reproducibility for a badges system to research publications as a NISO-recommended practice*
- **Involvement STM members:** *IEEE initiative, SpringerNature, Elsevier, several US-based societies, STM, NISO*
- **Other stakeholders:** *various US institutes and universities*
- **Timeline, milestones:** *submitted to NISO in Nov 2018, working group kick off early 2019*
- **STM involvement:** *member of working group, contributing expertise, gauging STM members for their interest and supporting outreach and adoption*

Open Science Badges: recognising openness



Awarded at article level to those papers fulfilling criteria needed to receive one or more badges



Methods Hub (exploratory phase)

- **Aim:** *exploratory project to normalise/standardise the metadata in journal articles on methods and protocols used in research projects to facilitate their findability in distributed repositories for methods information, working towards a single one-stop discovery system*
- **Involvement STM members:** *OUP*
- **Other stakeholders:** *potentially funders and policymakers, Crossref's Metadata2020 partners*
- **Timeline, milestones:** *organising a NAS workshop in 2019 to gauge interest from different stakeholders*
- **STM involvement:** *STM will be part of working group, exploratory work will require deeper market research into the feasibility of different solutions*

Seamless Access

- Building a coalition to take this forward



Open Access

- In 2010, STM announced that its members supported:
 - “any and all sustainable access models that ensure the integrity and permanence of the scholarly record”
- In 2012, STM amplified and made this specific:
 - “Gold open access provides one approach toward our shared goal of expanding access”
- And in 2017, support for Green open access was added under certain conditions
- All were summarised in a late 2017 policy statement called
 - “STM Publishers provide many routes for access to enable discovery”
- STM members collectively publish the largest number of OA papers of any publisher grouping



Publishing partners in shaping the research communication
system of the future

Questions?