STM at a glance

- International Association of Scientific, Technical and Medical Publishers
- STM supports its members in advancing trusted research worldwide.
- Over 140 members, in over 20 countries around the world.
- Includes academic and professional publishers, learned societies, and university presses; includes established players as well as start-ups.
- STM covers all scholarly disciplines.
- All members together publish 66% of journal articles and 10,000’s of monographs and reference works.
- STM works together to serve science and society by developing standards and technology to ensure research is of high quality, trustworthy and easy to access.

stm-assoc.org
Threats to research integrity
Threats to research integrity

Career advancement

The Retraction Watch Leaderboard

Who has the most retractions? Here’s our unofficial list (see notes on methodology), which we’ll update as more information comes to light:

1. Yoshitaka Fujii (total retractions: 183) See also: Final report of investigating committee, our reporting, additional coverage
2. Joachim Boldt (156) See also: Editors-in-chief statement, our coverage
3. Yoshihiro Sato (106) See also: our coverage
4. Jun Iwamoto (82) See also: our coverage
5. Ali Nazari (75) See also: our coverage
6. Diederik Stapel (58) See also: our coverage
7. Yuhji Saitoh (53) See also: our coverage
8. Adrian Maxim (48) See also: our coverage
9. Chen-Yuan (Peter) Chen (43) See also: SAGE, our coverage
10. Fazlul Sarkar (41) See also: our coverage
11. Shahaboddin Shamshirband (41) See also: our coverage
12. Hua Zhong (41) See also: journal notice
13. Shigeaki Kato (40) See also: our coverage
14. James Hunton (37) See also: our coverage
15. Hyung-In Moon (35) See also: our coverage

Retractionwatch.org
Threats to research integrity

Career advancement

Censorship

Twitter censored tweets critical of India’s handling of the pandemic at its government’s request

Tweets from government officials and other high-profile people were among those removed

By Kim Lyons | Apr 24, 2021, 11:40am EDT
Threats to research integrity

Career advancement

Censorship

Commercial interests

WHO COVID-19 library contains hundreds of papers from hijacked journals

Retraction Watch
Tracking rejections as a window into the scientific process

CHINA'S CLAMPDOWN ON FAKE-PAPER FACTORIES PICKS UP SPEED
Chinese funders are penalizing researchers who commission sham journal articles from 'paper mills'.

Nature, October 7th 2021

SOURCE: © SHONAGH RAE @ HEART AGENC

Illustration by David Parkins / Nature
Threats to research integrity

- Career advancement
- Censorship
- Commercial interests
- Politics & Ideology
Threats to research integrity

Career advancement
Censorship
Commercial interests
Politics & Ideology

Researchers, Authors, Editors
Institutes
Governments
Funders
Publishers
Publisher’s responsibilities in research integrity

Focus on integrity of publication process:

Transparency, predictability, responsibility, accountability, correctability, checks on provenance
STM’s mission

STM supports members in their mission to advance trusted research worldwide by developing standards and technology supporting research integrity, quality, transparency & Open Science.
STM’s focus in research integrity

Language

Images

Data
STM’s focus in research integrity

Language

Images

Data

Plagiarism checks

SCREENED BY

ithenticate
Professional Plagiarism Prevention
STM’s focus in research integrity

Language  Plagiarism checks
Images     Image Alteration & Duplicate Detection
Data

Recommendations for Editors for Handling Image Integrity Issues
Webinar September 14th
https://www.stm-assoc.org/events/webinar-on-stms-draft-recommendations-for-handling-image-integrity-issues/
STM’s focus in research integrity

Language

Plagiarism checks

Images

Image Alteration & Duplicate Detection

Data

Data quality

Link - Cite – Share Research Data

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Research Data Program
Data Peer Review
STM 2020 RESEARCH DATA YEAR.

21 PARTICIPATING PUBLISHERS

13,064 PARTICIPATING JOURNALS

JOURNALS: AVERAGE NUMBER OF DATA POLICIES
29% START OF 2020
52% END OF 2020

ARTICLES THAT CONTAIN A DATA AVAILABILITY STATEMENT
7% START OF 2020
15% END OF 2020

JOURNALS THAT CONNECT TO SCHOLIX
34% Q2 OF 2020
43% END OF 2020

FULL DASHBOARD: dashboard.stm-assoc.org
OUR WEBSITE: stm-researchdata.org

The publishing partner in shaping the research communication system of the future
A standard Peer Review Terminology

1. Identity transparency:
   - All identities visible
   - Single anonymized
   - Double anonymized
   - Triple anonymized

2. Reviewer interacts with:
   - Editor
   - Other reviewers
   - Authors

3. Review information published:
   - None
   - Review summaries
   - Review reports
   - Review reports author opt in
   - Review reports reviewer opt in
   - Submitted manuscript
   - Submitted manuscript author opt in
   - Author/reviewer communication
   - Reviewer identities
   - Reviewer identities reviewer opt in
   - Editor identities

4. Post publication commenting:
   - Open (to anybody)
   - On invitation (selected individuals)

Example journal A
Identity Transparency: Single anonymized
Reviewer interacts with: Editor
Review information published: None

Example journal B
Identity Transparency: All identities visible
Reviewer interacts with: Editor, Other reviewer(s)
Review information published: Review reports, Reviewer identities
Post publication commenting: Open

More information: https://www.stm-assoc.org/standards-technology/peer-review-taxonomy-project/
AI Ethics in Scholarly Communication

Publishers are involved with AI in three areas:

1/ Data providers
2/ Supporting internal workflows and services
3/ External-facing tools and services

Full report:

Transparency and Accountability
Transparency and accountability can most clearly be achieved on the level of the data used in AI, as well as in the use of AI technology in publisher’s tools, processes and services. Publishers encourage working with other actors to adapt standards where necessary.

Sustainable development
The multi-disciplinary nature of AI systems makes them ideally positioned to address areas of global concern. Funding and other incentives for suppliers of high-quality input data can help to extract important actionable knowledge.

Quality and Integrity
Quality and Integrity should be at the heart of the AI lifecycle, from the design and building of algorithms, to inputs used to train AI tools and services, to the application of AI. Appropriate IP frameworks are essential.

Fairness
To avoid bias, discrimination and the suppression of novel ideas and theories, data selection and the application of AI must be carefully analyzed, planned, reviewed, and continuously monitored, and feedback mechanisms should be developed.

Privacy and Security
Principles that focus on data protection, data privacy and security can and should be used to respect and uphold privacy rights, data protection and ensure the security of datasets used in training or operating AI systems.

STM best practice principles for ethical and trustworthy AI

Legal and policy framework
STM proposes that the further development of AI be guided by and grounded in clear legal standards and sound ethical principles. As AI technologies continuously evolve, newly introduced legislative tools bear the risk of being overly inflexible. This may lead to unintended and perhaps harmful consequences, policymakers may wish to determine first if existing legislation is adequate to address AI regulatory needs.
Collaboration is Key

• Collaboration is necessary:
  • Speed and agility are critical in a tech ‘arms race’ (Paper Mills won’t wait)
  • Better solutions and greater ROI when sharing (IT) resources and expertise
  • More and more problems need a joint solution, where no publisher can solve it on their own – especially very high barrier for smaller & mid-sized publishers

• Collaboration is realistic:
  • Publishers are willing to share algorithms, ideas and expertise
  • Publishers are willing to ‘pool’ content when (strict) criteria for security & confidentiality are met
  • Publishers are willing to work with trusted third parties for Research Integrity services (e.g. iThenticate)

• Collaboration is difficult:
  • Interplay of legal, policy, workflow and technology issues
  • We are mindful of anti-trust regulation and don’t want to compete with our own members
  • Poor interoperability between publishers makes it inefficient to collaborate and exchange algorithms / content.
  • Re-inventing the wheel: Paper Mills, Image Alteration, Plagiarism Detection, Authorship Validation, etc.
The Research Integrity Collaboration Hub: a trusted environment to spur collaboration

A virtual environment ("cloud") in which:

1. Trusted algorithms can access content from participating publishers to scan for research integrity issues during the editorial workflow
2. Algorithms can easily be developed in collaborations between publishers, STM solutions & 3rd-parties (if and when desired)
3. Results of algorithms can be presented to editors to help inform their decision-making at various steps of their workflow
Thank you!

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