



STM Integrity Hub - Collaborative Tools

STM

Preserving Integrity, Protecting Trust: STM Integrity Hub helps publishers communicate and collaborate to defend science against fabrication and fake papers

In recent years, publishers have seen an increase in integrity issues within submitted papers, such as fabricated data, and the emergence of paper mills (illegitimate commercial companies that fabricate and sell manuscripts). With the growing prevalence of artificial intelligence (AI) technology such as ChatGPT, the threat of fake papers, images and data is likely to become a more significant issue for stakeholders looking to maintain the credibility of their publications.

Historically it has been difficult for publishers to keep on top of the 'red flags' for these threats. Initiatives to thwart the publication process continue to adapt as technology evolves, making misconduct easier and detection difficult. As a result, papers with integrity issues are often not detected until after submission and require extensive resources and money to retract them. Greater redactions of papers contribute adversely to the public trust in science, upon which the authority of scientific publication is built.

By joining forces with a range of stakeholders, STM - the standard bearer for the academic publishing industry - launched their 'STM Integrity Hub' in early 2022 as a robust, direct response to safeguard the integrity of science and thus the preservation of public trust. The Hub offers a holistic approach to detect research-integrity-offending manuscripts pre-submission.

What is the STM Integrity Hub?

Given that threats to integrity affect the entire scholarly ecosystem, STM recognised the importance of creating an initiative to improve collaboration, discuss of threats and development of solutions.

"No single publisher will be able to solve this problem alone. We arrive at better, more affordable solutions when we share resources and expertise. This is why we created the Integrity Hub." - Joris van Rossum, Director of Research Integrity, STM

The Hub is an initiative that exists to:

Spark and sustain collaboration across publishers.

Uphold research integrity by detecting manuscripts found to violate accepted research integrity standards, serving as an 'early warning system' for integrity issues.

Empower all types of publishers to easily come together for the sole purpose of protecting the scientific record.

Enable rapid responses to new threats through a flexible, innovative system architecture.



What is the STM Integrity Hub developing?

The Hub aims to effectively and efficiently reduce the volume of fraudulent materials entering the scholarly records. It currently focusses on three key threats to scientific integrity:

- 1 Image Manipulation and Duplication** – by developing a collection of instructional materials, including videos, for editors and information about screening tools.
- 2 Paper Mills** – by developing a detection tool to flag suspicious papers pre-submission.
- 3 Duplicate Submissions** – by developing a tool that will flag any similar papers submitted across publishers.

The Paper Mill Detection Tool was launched April 2023.

The detection tool is a stand-alone web application that allows publishers to automatically screen uploaded papers against key indicators that suggest the manuscript has, or may have, originated from a paper mill. The tool will flag any concerns, and publishers can then investigate them more thoroughly before making the final editorial decision - an important principle of the Hub. During the process of development, we ensured that the tool followed industry best practice and is fully legally compliant, handling submission and data privacy to the highest ethical standards.

The benefits of collaboration to tackle RI threats

The collaborative nature of the Hub ensures that, whilst the technical aspects of thwarting these relatively new challenges to the system are addressed, barriers of entry for legitimate authors – regardless of their background, field of research, or geography – are not introduced.

By involving publishers of all sizes within the Hub's processes, and the development of the tools, STM helps to support smaller publishers who may normally not have had the resources to tackle paper mills and other threats. This benefits all publishers, as the greater the number of individuals using the tool and inputting information, the more powerful and accurate the tool becomes.

Moving forward, STM plans to continue testing and developing the detection tool as part of the Integrity Hub and will continue to deepen and extend its collaboration with research integrity specialists and organisations. STM will be working to respond to changes of tactics by the mills as they continue in their attempts to subvert their processes. The continued development of such detection tools protects the integrity of scientific publications and maintains the public's trust in the scientific community.