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Peer review crisis is stalling India's scientific progress

BY INVITATION

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The scientific peer review system, long considered the backbone of research quality control, is showing signs of serious strain. Editors and authors alike report mounting difficulties in finding qualified reviewers. A recent study noted that fewer than half of invited reviewers now accept invitations, lengthening the review process and adding to editorial workloads. One editor recounted inviting 40 researchers just to secure two reviews for a single paper—an acceptance rate of barely 5%.

With so few willing to take on the task—even for journals in which they recently published—editors must send out far more requests, wait longer for responses, and often personally coax colleagues to volunteer. The result is a slower publication pipeline and mounting pressure on editorial teams. Perhaps more troubling are reports that journals are using swift desk rejections as a coping mechanism. This means many papers, potentially even worthy studies, are being turned away. In extreme cases, papers have been withdrawn simply because no reviewers could be found.

Image: AI

GAMING THE SYSTEM: Journals face a shortage of honest reviewers and a glut of fakes

Meanwhile, a series of scandals has exposed how the peer review process can be gamed or outright defrauded. A notorious case emerged in 2014, when Sage Publications retracted 60 articles from the Journal of Vibration and Control after uncovering a peer review and citation ring. One author had created fake reviewer identities and fabricated email accounts to submit glowing reviews of his own papers, exploiting systems that allowed authors to recommend reviewers. Such incidents have since multiplied.

In recent years, the scale of fraud has become staggering. In 2022, publisher Wiley announced it would retract 511 papers across 16 journals in its Hindawi portfolio after exposing organised peer review rings. A further investigation in 2023 identified about 1,200 more compromised articles, traced to special issue editors and fake reviewer accounts. Other publishers have faced similar crises: the Institute of Physics Publishing retracted nearly 500 papers in 2022; PLOS One withdrew over 100; and Frontiers in Physiology retracted 13 papers after confirming that perpetrators had stolen or invented academic identities and even secured editorial roles to handle their own manuscripts. These cases highlight systemic vulnerabilities. When overwhelmed editors rely heavily on author-suggested reviewers or cursory vetting, clever bad actors can slip through. The fallout is severe. Not only are fraudulent papers published, journals must devote significant effort to investigations, re-reviews and mass retractions, all of which further burden editors and diminish trust in the publication process.

Considering these twin crises — too few honest reviewers and too many cunning fake ones — what is the way forward? Most experts agree that no single fix will suffice. On the policy front, journals and institutions are exploring ways to better reward genuine peer review, moving beyond the notion of it as a 'good karma' service. Some propose paying reviewers or offering tangible incentives, though this is controversial because of costs and potential conflicts of interest. More widely accepted is giving public credit for reviewing. Platforms like Publons now allow reviewers to showcase contributions, and some universities even consider peer review activity in hiring or promotion decisions. Another idea is reciprocity: requiring that authors who submit to journals also contribute reviews elsewhere, reinforcing the idea that publishing is a two-way street.

Technology is also being harnessed to shore up peer review. AI-driven manuscript systems now suggest qualified reviewers, track workloads, and flag suspicious patterns—for instance, when multiple submissions list the same reviewers. Forensic tools that analyse metadata or writing style are being developed to detect reviews generated by paper mills or AI. Such measures add extra layers of defence.

Ultimately, however, cultural change within academia will be key. Researchers must re-embrace reviewing as a core responsibility of scholarship. Senior scientists can help by mentoring younger colleagues in good reviewing practices, while academic leaders and department heads should set expectations that faculty devote time to peer review. Even small gestures can make a difference. In one experiment, adding a short, personalised note from the editor to accompany the standard review request email led to a measurable uptick in reviewers accepting the task. Such humanisation of the process reminds potential reviewers that they are not just cogs in a publication machine.

If these reforms take root, peer review can emerge stronger and more resilient. The stakes are high. Without reliable peer review, the credibility of published science itself is at risk. ■

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