

Alerting the engineering research community to the risks of predatory journals and conferences

Published in March 2022, [Combatting Predatory Academic Journals and Conferences](#), an InterAcademy Partnership (IAP)¹ report, gave a **stark warning** to the global research community and wider stakeholders on the growth of predatory journals and conferences, and their damaging impacts if left unchallenged.

Context

Predatory journals and conferences are driven entirely by profit rather than scholarship: they solicit articles from researchers through deceitful or misleading practices that exploit the pressure on them to publish and present their work. These practices include rapid pay-to-publish and pay-to-present services without rigorous peer review, journal and conference titles that are deceptively similar to those of legitimate ones, and aggressive spam invitations to solicit papers and abstracts, including outside of a researcher's own expertise. In the case of *fake* conferences, they do not take place at all, and conference fees are not returned.

Over 1,800 researchers from across all disciplines completed an IAP survey on predatory practices and over 80% of them perceive that these practices are a serious problem in countries where they work. Results indicate that nearly a quarter of respondents may have already used predatory journals or conferences. What is more, it seems that **researchers in engineering and transdisciplinary research may be more likely to participate in predatory conferences** than those in other disciplines. Whether this is a measure of relative vulnerability or predisposition is not clear, but certainly predatory engineering conference outlets are numerous, sometimes hosting hundreds of engineering conferences on any one day and in any one location. Over 15% of entries under Cabells' Predatory Reports – listing over 16,100 predatory journals (at time of writing) – claim to publish under engineering: that's nearly 2,500 predatory engineering journals.

The adverse impacts of predatory journals and conferences are not widely recognized, with many researchers – including those in engineering- unaware that they even need to consider a journal or conference's authenticity. Organizations representing the engineering research community – including national academies and professional societies – have a vital role to play in raising awareness of these damaging and pervasive practices to preserve the integrity of engineering research in the public and private sector.

Why does this matter?

If left unchallenged, the risks of predatory journals and conferences are profound. Poor, untrustworthy research, including that supporting pseudoscience or conspiracy theories, can flourish and even find its way into public policy. Conversely, quality research can remain uncited or even lost, failing to contribute to future research knowledge or policy formulation.

¹ IAP is the global network of over 140 national and regional academies of science, engineering and medicine who work together on issues of mutual concern and global importance. Engineering academy members include the Chinese Academy of Engineering, and the International Council of Academies of Engineering and Technological Sciences (CAETS), hosted by the U.S. National Academy of Engineering. More information is available at www.interacademies.org.



The potential infiltration of predatory conferences in the engineering research community is a concern and risks undermining the integrity of engineering research. Conference attendance provides unique opportunities for scholars to discuss ideas and form new collaborations; and in the case of engineering conferences in particular, to showcase commercial prototypes and provide a platform for industry professionals to interface with relevant researchers whose work is relevant to their products. While more research must be done, the IAP report speculates that the commercial angle of engineering conferences may make them more attractive to predatory outlets. Further, if an engineer's research is transdisciplinary, it can be all the more difficult to identify respected conferences that publish across fields, arguably making them even more susceptible to exploitative conferences. This is of particular concern given the growing emphasis on interdisciplinary cluster hires in university engineering departments.

What can be done?

IAP has tasked its own members with a raft of practicable recommendations to help combat predatory journals and conferences. Representative bodies of engineering research, including national academies of engineering, can do the same to equip their members to practice proper due diligence and serve as effective mentors and supervisors to their junior colleagues.

To protect against predatory practices, representative engineering research bodies at national, regional and global levels – whether funding councils, academies, professional societies or unions- can:

- Run programs that highlight the dangers of predatory journals and conferences, such as public, virtual webinars that focus on raising awareness of predatory practices, including how to avoid them and the consequences of not doing so.
- Incorporate targeted training on the dangers of predatory practices and how to identify them in their training programs for members of selection/promotion committees; for early career engineers/researchers (e.g. India NAE's Young Associates program); or in Frontiers of Engineering meetings (like those run by the US's NAE), for example. These training programs could highlight the IAP spectrum of predatory publishing and conferencing behaviors, as well as other guides and resources listed in the IAP report.
- Create incentive schemes for using high quality journals and conferences, and disincentives for using predatory ones.
- For those with publishing arms, implement strategies to minimize predatory behavior/infiltration. This includes facilitating a discussion on how to transition to a low-cost, sustainable, online and less profit-driven model of publishing, ensuring that the research community is involved. This could be accomplished through targeted feedback sessions with members at annual meetings, public virtual forums, and engagement with early career research cohorts.
- For those who fund research grants, metrics for evaluating grant applications and recipients should be reviewed and reformed to account for quality rather than quantity, impact rather than numbers, to help effect positive change in research culture.

For further information, please read the report at www.interacademies.org/project/predatorypublishing or contact the project secretariat at secretariat@iapartnership.org.

