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## Is Biomedical Research Protected from Predatory Reviewers?

Aceil Al-Khatib<sup>1</sup> and Jaime A. Teixeira da Silva<sup>2</sup>

<sup>1</sup>Faculty of Dentistry, Jordan University of Science and Technology, P. O. Box 3030, Irbid 22110, Jordan

<sup>2</sup>P. O. Box 7, Miki-cho Post Office, Ikenobe 3011-2, Kagawa-ken 761-0799, Japan

### Abstract

Authors endure considerable hardship carrying out biomedical research, from generating ideas to completing their manuscripts and submitting their findings and data (as is increasingly required) to a journal. When researchers submit to journals, they entrust their findings and ideas to editors and peer reviewers who are expected to respect the confidentiality of peer review. Inherent trust in peer review is built on the ethical conduct of authors, editors and reviewers, and on the respect of this confidentiality. If such confidentiality is breached by unethical reviewers who might steal or plagiarize the authors' ideas, researchers will lose trust in peer review and may resist submitting their findings to that journal. Science loses as a result, scientific and medical advances slow down, knowledge may become scarce, and it is unlikely that increasing bias in the literature will be detected or eliminated. In such a climate, society will ultimately be deprived from scientific and medical advances. Despite a rise in documented cases of abused peer review, there is still a relative lack of qualitative and quantitative studies on reviewer-related misconduct, most likely because evidence is difficult to come by. Our paper presents an assessment of editors' and reviewers' responsibilities in preserving the confidentiality of manuscripts during the peer review process, in response to a 2016 case of intellectual property theft by a reviewer. Our main objectives are to propose additional measures that would offer protection of authors' intellectual ideas from predatory reviewers, and increase researchers' awareness of the responsible reviewing of journal articles and reporting of biomedical research.

### Keywords

Trust; Confidentiality; Ethics; Peer review thieves; Plagiarism

### Introduction: Is Peer Review Based on a Foundation of Rock or Sand?

Biomedical research is similar to other disciplines, but there are major differences. The most important particularity of biomedical research is that the process of conducting research involves priority-driven competition (Hong and Walsh 2009), such that researchers in similar fields compete with each other to win a priority race to publish findings that would

Correspondence to: Aceil Al-Khatib; Jaime A. Teixeira da Silva.

**Compliance with Ethical Standards**

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contribute knowledge towards the rapid translation of research into medical therapies, diagnostic tests or medical devices, in order to benefit patients, practicing clinicians, and policy makers (Lancet Editorial 2013; Salman et al. 2014). In this context, it is worth mentioning that one cannot open a journal and not observe the frequency of statements such as “cutting edge research”, “state of the art research”, “our study is the first to report”, “never been previously reported”, and similar statements in the biomedical literature, often supporting positive results at the expense of negative ones (Teixeira da Silva 2015a, b). The race to publish new findings in peer reviewed journals clearly shows the major role peer review plays in the professional life of academics working in the biomedical field: peers evaluate grant proposals, the merit and quality of submitted manuscripts and their suitability for publication so that the published studies meet appropriate standards (Triggle and Triggle 2007). No matter how much emphasis is currently being placed on the establishment of preprint servers to try to eliminate as many errors before a paper reaches its final state, and no matter how many versions of a paper are produced as a result, peer review still remains the bed-rock of the biomedical scientific literature, at least for now (Mertens and Baethge 2012).

There is no question that conducting laboratory or clinical biomedical research takes tremendous time and effort to complete. It often starts by identifying a gap in current knowledge, or complements current theories, conceives a novel idea and determines the most appropriate study design that would answer a research problem and fill such a gap. Most science progresses in small increments and rarely makes massive discoveries, although breakthroughs in our understanding of ideas or concepts are not uncommon in this age of discovery. This indicates that, in general, scientists value their research results, and do not expect ideas to be pirated, divulged or abused anytime during the submission and publication process. Trust in the peer review system can only exist when research data and results are treated with absolute confidentiality. The loss of trust caused by the abuse of peer review is the focus of this paper.

Except for full-time researchers and post-docs, many researchers in biomedicine teach and provide educational services full time, devoting most of their free time, usually after working hours and during weekends, to conduct and/or publish research. The most common aspects of this process involve a calculation of the required sample size, the selection of appropriate laboratory tools, determination of the inclusion and exclusion criteria if the research involves human subjects, the selection of suitable statistical analyses, writing proposals, securing funding, obtaining the approval of institutional review boards, and recruiting the target number of research participants (Newington and Metcalfe 2014). In addition, after collecting, analyzing and interpreting data, developing the final manuscript, and selecting the most suitable journal, finally, at the end of this myriad list of complex processes, authors submit the end result of their hard enduring work to an academic journal in the hope that their submitted manuscript will be handled professionally, and eventually pass editorial screening without any unfair desk rejections (Teixeira da Silva et al. 2017b), and enter the timely peer review. This is the main procedure currently in place for the vast majority of biomedical journals. There is still, in the majority of these journals, continued blind trust in the power of the confidentiality of the peer review process.<sup>1</sup> This inherent trust in the traditional peer review to screen all submissions carefully prior to publication, on the

assumption of blind mutual trust is now suffering consequences of inherent flaws of this traditional form of screening work for quality (Teixeira da Silva and Dobránszki 2015a; Wicherts 2016).

Transparency and accountability are the characteristics of open peer review, in which the authors know who the reviewers are, while in blind, i.e., anonymous peer review, the authors do not know who reviewed their work and the reviewers do not know who the authors are (Ross-Hellauer 2017), but take into account that peer reviewers are expected to follow a set code of values, as part of their responsibility towards the scientific field, the publisher, journal, editors, and most importantly authors, whose fate lies in their hands (Teixeira da Silva 2013). Given that these codes are not “contracts” and thus, cannot be enforced by the courts or any other formal organization, it is possible that violations of professional codes of conduct by peer reviewers may take place, especially because their efforts are under-valued, and in most cases, uncompensated, even though they review freely, which becomes a professionally moral issue, i.e., the issue of exploitation, if such work is for for-profit publishers (Teixeira da Silva and Katavi 2016). It does not help when editors cozy up to authors, or vice versa, especially to authors with whom they have had previous relationships, i.e., a form of cronyism, to speed up the publishing process, over and above “regular” authors. This is what Sarigöl et al. (2017) found for a set of over 100,000 *PLOS ONE* papers published between 2007 and 2015, in which authors who had a previous relationship with editors were shown to have benefitted from a 19-day faster review period. Authors are under constant pressure to have their results released to the public before their competitors, but they expect this to be done under strict editorial codes (Teixeira da Silva and Dobránszki 2017). As part of collaboration with peer reviewers, even if they are blinded or anonymous, authors (and editors) do not expect that peer reviewers will steal or plagiarize submitting authors’ work, even if they may worry about such a possibility. Authors thus trust that peer reviewers are professionals who can be held to the highest standard of conduct and who would adhere to their obligations to respect the confidentiality of peer review and provide an unbiased peer review (Al-Khatib and Teixeira da Silva 2017a). Ultimately, the selection of responsible and professional peer reviewers is the responsibility of editors (Dobránszki and Teixeira da Silva 2016). Therefore, the promise to fulfil the inherent duties of peer review, and the trust and expectations of authors that this promise will be kept, are essential factors on which the foundation of peer review is built (Wangen 2015). The risks are higher when the peer pool is limited, and thus where inter-group competition within a narrow discipline is higher, since the risk that the authors’ competitors may abuse peer review by stealing authors’ ideas or by providing unjustified criticism, in order to block or slow down the publication of competing authors’ ideas and findings, might not be remote (Smith 2006).

In terms of the terminology for the purpose of this paper, trust is defined as: “the extent to which a given party [authors or/and editors] [are] willing to depend on something or somebody [editors or/and reviewers] in a given situation [in the process of peer review] with a feeling of relative security, even though negative consequences are possible” (adjusted

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<sup>1</sup>Perhaps one of the reasons authors disclose their findings and ideas to journal editors can be explained by a statement by Hartzog (2011, p. 10): “obligations [of confidentiality] can be inferred from customs, norms, and other indicia of confidentiality beyond explicit confidentiality agreements”.

from Jøsang et al. 2005). The term confidentiality implies all of the following: “[a]ll peer-reviewed information is considered to be privileged, confidential, and not to be exploited by the reviewer. Therefore, authors’ names, ideas, data, materials and technologies divulged in a paper or grant proposal should be handled with the utmost care. Information provided in papers cannot be used or acted on until the paper is published” (Stewart Jr. 2011, p. 142). This concept is in alignment with confidentiality statements by journals and publishers (Table 4), and with the U.S. National Institutes for Health (NIH) Confidentiality and Nondisclosure Rules.<sup>2</sup> These rules prohibit a peer reviewer from using “information contained in an application or proposal for his/her personal benefit or making such information available for the personal benefit of any other individual or organization.”

## Intellectual Property Theft by Peer Reviewers: The Risks

Unfortunately, there is evidence that the aforementioned unethical conduct, i.e., reviewers stealing authors’ ideas and slowing down their publications, is not unlikely. In a study by Resnik et al. (2008), 6.8% of respondents, which included researchers, research staff, post-doctoral trainees and technicians at the National Institute of Environmental Health Sciences who were surveyed anonymously, reported having experienced a reviewer that breached the confidentiality of their submission, 5% reported that a reviewer had used their ideas or data without their permission, and 9.2% claimed that “[a] reviewer delayed the review so that he/she could publish an article on the same topic.” However, Resnik et al. did not show any proof to substantiate the claims made by their respondents by providing an anonymous list of respondents’ answers and basic background as an online supplementary file. Although Resnik et al. recognized this limitation in their study,<sup>3</sup> their findings support the notion that peer review is open to abuse (Triggle and Triggle 2007), because of its inherent flaws and biases (Smith 2006; Resnik et al. 2008; Oleinik 2014). Spier (2002a) claimed that peer review is “fraught with problems” by virtue of the fact that some reviewers may reject “papers that carry major advances and innovations”, as explained in a bit more detail next. Separately, Cawley (2011) argued that blind peer review is intrinsically and structurally unethical because anonymous peer review empowers an academic’s close competitors to decide their career while shielding and protecting those reviewers, and not providing any protection to the victimized authors. Cawley’s view may represent a very radical perspective, and most likely is not the mainstream situation in which it is rare to find blatant attacks or unfounded criticisms of authors that are not based on factual claims or based on the weaknesses of the study, weaknesses that should be confirmed and moderated by an editor-in-chief (EIC) prior to returning the peer reports to authors. Therefore, the apparent inherent bias in peer review is demonstrated by the notion that competitors, sometimes rivals, or even foes, may be invited to evaluate each other’s work, often unknown to the author during blind peer review, and recommend it for rejection, wasting time, effort and patience (Teixeira da Silva 2016a, b). However, it is recognized that if a rejection is based on factual inaccuracies of the paper, or methodological or analytical flaws, for example, then

<sup>2</sup>[https://grants.nih.gov/grants/peer/guidelines\\_general/Confidentiality\\_CertificationsPR.pdf](https://grants.nih.gov/grants/peer/guidelines_general/Confidentiality_CertificationsPR.pdf).

<sup>3</sup>Resnik et al. describe the limitation of their study by stating: “A person who answers “yes” to the question “a reviewer breached confidentiality” may have little factual basis for this assertion, since it is often difficult to know whether confidentiality has been broken. While we recognize that this is a significant limitation of our research, we think that our study identifies some areas of concern among researchers”.

the rejection is valid and fair, independent of the anonymous nature of the reviewer, or their competitive status with the submitting authors. It is thus not difficult to imagine that a reviewer may be asked to evaluate an author's work that happens to be similar to a project that he or she may be working on. In such a case, the reviewer may be tempted to delay its publication, reject it or even steal (i.e., plagiarize) it, and publish it, or select aspects of it, as their own (Ready 2006). Even without deliberate delay, rejection and misappropriation of work, the theft of ideas by peer reviewers—who are also often involved in an increasingly competitive race for grants and publications pertaining to their own research—during peer review, is anticipated and feared, especially if innovative ideas of visionary academics are disclosed (Spier 2002a). The risk of such zealous behavior increases with reviewers that do not have the skills or intellect to develop their own ideas, and these risks increase as the “predatory”<sup>4</sup> or exploitative mentality increasingly encroaches on traditional academic publishing (Al-Khatib and Teixeira da Silva 2017b). How then does one identify an intellectual thief before the theft occurs, i.e., prior to recruiting that person as a peer reviewer? Although, simplistically speaking, it is the duty of the senior editor or EIC to identify suitable peers and to screen out unsuitable ones, the ability to do so is not that linear, or simple, one reason being that opportunistic peers with such qualities might hide their tracks well, or be difficult to spot. This paper aims to address this issue and offer some possible solutions and suggestions to minimize the risks, although such risks might never be fully eliminated.

When a reviewer plagiarizes an author's ideas (Helgesson and Eriksson 2015), that act meets the definition of research misconduct, which is defined as “fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results” by the office of Research Integrity (ORI) of the United States of America.<sup>5</sup> Plagiarizing authors' ideas (Ambrose 2014) or part of their work may be more common than most think, but its prevalence is difficult to estimate since research misconduct questions are sensitive and the behavior is socially unacceptable. Therefore, findings from direct questionnaires should be considered under-estimates of the true prevalence rates, according to Roberts and St. John (2014), who used direct questioning and two specialized methods to estimate the prevalence of research misconduct amongst UK academics, learning that, for example, “[e]stimates of academic misconduct increased with decreasing seriousness of the behavior, from 0% for data fabrication to >68% for inappropriate co-authorship”. In their survey, Roberts and St. John noted that respondents found that the theft of someone else's ideas was moderately unethical, ranked as being more serious than over-selling ideas or inappropriate authorship, but ranked as being less serious than data fabrication or plagiarism.

Plagiarism, i.e., authors plagiarizing other authors, is one of the most common forms of research misconduct (Anderson and Steneck 2011). It is likely also to be the most commonly reported, because it is the easiest to detect, at least in terms of textual plagiarism, due to the advent of several free and purchasable plagiarism detection software. Higgins et al. (2016) investigated the extent of plagiarism in manuscripts submitted to *Genetics in Medicine*, a

<sup>4</sup>Predatory behavior by peer reviewers involves the use of deception by pretending to be peer reviewers to extract resources, i.e., ideas or text, from unsuspecting authors. This concept is based on Jones (2014).

<sup>5</sup><https://ori.hhs.gov/definition-misconduct>.

major specialty medical journal, and detected, using iThenticate®, an “unacceptable” level<sup>6</sup> of plagiarism in 17% of 399 submitted manuscripts; moreover, 82% of plagiarized manuscripts were from non-English speaking countries. However, although plagiarism detection tools may help to detect text plagiarism, unfortunately, the extent to which authors plagiarize major ideas may be difficult to document, simply because defining what constitutes a minor idea versus a major idea, or acceptable versus unacceptable, may vary and is inherently subjective. Moreover, “software can flag correctly referenced material as non-original content” (Weber-Wulff 2015). Price (2006) reported that plagiarism was not found to be a major misappropriation of significant ideas or data when he analyzed plagiarism cases handled by the US ORI. Furthermore, Stenflo (2004)<sup>7</sup> discussed the difficulty of catching plagiarists’ ideas and warned against “intelligent plagiarists”, i.e., scientists who plagiarize the findings and ideas of others without being caught, because most scientists do not have either time or sufficient interest to carefully investigate where the original ideas came from. In comparison, since reviewers are selected from a pool of equally potential authors, i.e., competitors, the extent to which reviewers might plagiarize authors’ ideas and/or text may be similar to that reported by Price (2006) or Higgins et al. (2016) for regular authors or academics. In essence, it is the intellectual usurpation of data, measurements or ideas and theories, and not necessarily words, that constitutes the greatest act of plagiarism (Bouville 2008).

It is thus expected, in the light of Price’s (2006) study, that the acts of the majority of reviewers who plagiarize constitute a difficult-to-detect misappropriation of authors’ ideas. However, our speculation is difficult to ascertain or quantify given the shortage of literature on the subject of plagiarism by peer reviewers. Plagiarism of authors’ ideas during peer review by unethical, i.e., predatory, reviewers is rarely reported, because, as discussed above, it is difficult to prove that a reviewer has plagiarized an author’s ideas. The lack of a robust detection method is not helped by an increasing number of academic journals, particularly the predatory open access journals (Al-Khatib and Teixeira da Silva 2017b), and a relative lack of techniques and measures journals and publishers have in place to protect researchers’ ideas during peer review, apart from stated guarantees for peer reviewers prior to commencing peer review, or to detect such misappropriation before a reviewer publishes plagiarized ideas. The two most commonly envisaged scenarios would be if an author discovers the misappropriation of their intellectual ideas and explicitly comes forward with a formal complaint, or if, accidentally, the plagiarized manuscript was submitted to the same reviewer who happened to be a referee for another journal, i.e., if the same manuscript was submitted to the same reviewer by two different authors (Table 1, retraction notice for Yan et al. 2015). Furthermore, the rarity of the literature on this topic can be explained by the difficulty to conduct reliable quantitative and qualitative studies with valid results. This is because it is reasonable to expect that data from studies that employ self-reported questionnaires or surveys of reviewers are likely to be tainted by two possible sources of

<sup>6</sup>In the study by Higgins et al. (2016), the authors considered articles to contain plagiarism if one sentence had 80% of the words copied from another published paper.

<sup>7</sup>In Stenflo (2004), the author’s warning came as a response to the lack of an appropriate response to plagiarism by journals. He wrote: “In 1973 I was one of five authors of a paper published in *Physica Scripta* (7, 241–249; 1973). Many years later an almost identical paper appeared in the *Indian Journal of Pure and Applied Physics* (36, 273–279; 1998), where the main difference was that our names had been replaced by the names of two other authors”.



bias. The first is the social desirability bias (Nederhof 1985; Roberts and St. John 2014): since most peer reviewers are also authors, they are unlikely to give honest answers and would give socially appropriate responses. It is understandably difficult to eliminate this bias when interpreting answers to questions pertinent to whether respondents had previously plagiarized authors' ideas. Secondly, information bias or inaccurate recall/memory responses (Powers et al. 1978), since authors may not know, prove or recall with certainty if their ideas were plagiarized by a reviewer during peer review.

Regarding the stated guarantees of maintaining confidentiality by peer reviewers during peer review, peer reviewers are generally requested to agree with stated conditions prior to commencing the task. For example, a peer review conducted in February 2017 by the second author of this paper for a Taylor and Francis journal, stated: "All communications regarding this manuscript are privileged. Any conflict of interest, suspicion of duplicate publication, fabrication of data or plagiarism must immediately be reported to me." The "me" referred to the journal's EIC. Unfortunately though, this approach is not universally used by all journals.

### An Important 2016 Case of Peer Reviewer Fraud, Through Theft

Although plagiarizing, i.e., stealing, an entire study is rarely reported, an incident in 2016 raises red flags. In this case, an author was shocked to discover that he was the victim of blatant intellectual property theft by a reviewer who appropriated his ideas from a rejected manuscript that he had submitted (Laine 2017) to a high impact factor (Clarivate Analytics) journal (16.593), namely, the *Annals of Internal Medicine* (AIM<sup>8</sup>), published by The American College of Physicians, only to see it published in another broad biomedical journal, *EXCLI Journal*, by Finelli et al. (2016). The Finelli et al. (2016) paper has now been retracted after Carmine Finelli admitted that he and his co-authors plagiarized the manuscript that had been submitted to Finelli for peer review in AIM. Consequently, Finelli's previous publications have since been scrutinized by critics who have posted their findings at PubPeer.<sup>9</sup> The plagiarized author published a commentary in AIM reprimanding his plagiarizer and expressing his dismay in the hope that it would increase awareness (Dansinger 2017). Dansinger's painful experience is sufficient testament of the need to increase awareness and protect the intellectual property of authors from predatory reviewers.

The theft of Dansinger's intellect by Finelli also shows that even one of the highest level medical journals, AIM, whose editorial leadership (Christine Laine, the AIM EIC) also leads the International Committee of Medical Journal Editors (ICMJE), was unable to prevent this intellectual theft, or even detect it, raising doubts about the ability to detect and prevent such events, even in top level academic biomedical journals, as well as the possible effectiveness of written clauses in the ICMJE Recommendations, a widely disseminated code of conduct for many biomedical journals, several of which deal with and address a new reality in academic publishing of stolen ideas, identity theft, fake data and fake peer reviews (Teixeira da Silva 2017a). Furthermore, the Dansinger case brings to mind a previously raised

<sup>8</sup><http://annals.org/aim/pages/authors>.

<sup>9</sup><https://www.pubpeer.com/search?q=Carmine+Finelli>.

important issue of whether editors might “botch or bias” the selection of peer reviewers (Harnad 1998). Most importantly, this case raises pressing questions pertaining to current measures and policies that are used to protect the confidentiality of manuscripts submitted to biomedical journals during, and even after, peer review. The concerns are even greater if those journals are claiming to subscribe to ICMJE editorial and peer policies (ICMJE 2017), if they are Committee on Publication Ethics (COPE) members, or if they carry a Clarivate Analytics journal impact factor (JIF) or Elsevier/Scopus CiteScore. This is because journals in the latter category are at greatest risk of peer reviewer fraud or abuse because publications with a JIF or CiteScore (future prediction for this metric) constitute actual currency, i.e., papers published in journals with a JIF (and potentially those with a CiteScore) are financially rewarded in many countries, depending on the authorship credit, i.e., position, status as corresponding author, etc., i.e., these two indices are often gamed to advantage (Teixeira da Silva and Bernès 2017; Teixeira da Silva and Memon 2017). Thus, being able to delay authors whose ideas are submitted to journals with a higher JIF or CiteScore, to buy enough time to publish their own competing ideas, or to delay the publication of the ideas within the paper of the authors they are reviewing, also constitutes a serious act of peer review misconduct (Teixeira da Silva and Dobránszki 2017; Teixeira da Silva et al. 2017b), in addition to blatant idea plagiarism and intellectual theft discussed in this paper. Needless to say, that the use of a limited number of reviewers may reduce the likelihood of detecting such issues, given the closed nature of peer review. Abuses that are detected in ICMJE-subscribing or COPE member journals would reveal discrepancies in the recommendations or guidelines in place by these journals (see Tables 2, 3). A key question here is what could AIM and/or the ICMJE have done differently to have avoided or prevented the theft of Dansinger’s ideas by Finelli, and how much responsibility does the journal or editors have in such a case? A very worrisome statement by the AIM Executive Deputy Editor and ICMJE Secretary, Darren Taichman,<sup>10</sup> indicates that there are inconsistencies among ICMJE members: “So, while I serve as the group’s secretary, what I’ve said here are my thoughts and others on the committee might see or state things somewhat differently” (McCook 2017). Inconsistency in editorial rigor and policies, especially when it is projected to the academic public, is the inherent basis for abuse. The Taichman statement thus breathes little faith in both AIM and the ICMJE.

This recent incident of intellectual property theft by Finelli,<sup>11</sup> although rare, might not be unique (Smith 2006). The literature shows at least three similar documented incidents of reviewers who plagiarized text during peer review and used it as their own, but after they had been caught, the offending authors had to retract their articles (Sticklen 2010; Yan et al. 2015; Khan et al. 2015). Table 1 shows the details of the retraction notices of these three incidents. One reason that journals have confidentiality statements is an attempt to prevent such blatant violations. However, do all reviewers read, perceive as binding, and comply with these statements? And how do publishers, via editors or the EIC, ensure peer reviewer compliance, if their email invitations do not express confidentiality indicators? Hartzog (2011, p. 156) discussed how courts struggle with inferring implied confidentiality

<sup>10</sup><http://annals.org/aim/pages/biography#taichman>.

<sup>11</sup>Finelli has just received his second retraction for plagiarism. <http://retractionwatch.com/2017/08/01/researcher-stole-manuscript-peer-review-earns-second-retraction/>.



agreements by stating: “The reason courts considered the expression of confidentiality so important is that, in order to find an implied obligation of confidentiality, courts asked whether the recipient—knew or should have known that the disclosed information was confidential”. With this in mind, our study assesses editors’ and reviewers’ duties owed to authors with regards to preserving the confidentiality of manuscripts during the peer review process, examines confidentiality statements across several journals, and advocates for authors’ rights to set conditions for reviewers to access authors unpublished manuscripts during peer review, i.e., protection of their ideas, and their right to a timely peer review (Teixeira da Silva and Dobránszki 2017). A key objective is to increase awareness of responsible research practices in reviewing and reporting biomedical research.

## How is Confidentiality Respected During Peer Review?

The current practice in blind peer review is that when a manuscript passes initial editorial screening, the editor selects peer reviewers, either from experts in the field of the manuscript based on their publication record or from an author-suggested list of reviewers, who are then invited by email, which tends to contain the title and abstract of the manuscript in an anonymized format (Willis 2016). If they accept to review, they can then access the manuscript, either via an email attachment, or via password access through an online submission system, which are themselves prone to fraudulent abuse (Teixeira da Silva 2016a). One of the great failures of this step is that the authors of the manuscript are unknown, so actual or perceived conflicts of interest cannot be assessed by the invited reviewer. Thus, ideally, invited reviewers with a conflict of interest should recuse themselves from reviewing, although this might be practically impossible during double-blind peer review where reviewers are not aware of authors’ identities, and vice versa. Failure to eliminate such a conflict can be problematic if it leaks afterwards that there was a personal or professional link between authors and reviewers, but which was not known prior to manuscript publication, a risk that can be eliminated by adopting open peer review. From an author’s perspective, allowing potential reviewers to access an author’s submission raises more pressing questions: Do peer reviewers have any obligation to respect the confidentiality of a submission communicated to them without their explicit consent to accept to review, before they visit the journal’s website, and before they agree to be bound by confidentiality? Are peer reviewers bound by any confidentiality statement on the journal website, when the abstract or the manuscript is sent to them in the editor’s email asking them whether they accept the invitation to review?

To try and answer these questions, and in order to illustrate them using several examples, publicly available confidentiality statements of several familiar biomedical journals by major publishers were examined (Table 4), since these statements are crucial to determining the scope of duty to confidentiality to authors and reviewers (Heywood 2008). Then the content of several confidentiality statements was assessed to try and answer three thematic questions: (1) Is confidentiality protected until after peer review has been completed and once the paper is published online, i.e., available to the public? (2) Is confidentiality protected even if the manuscript is rejected? (3) What are the consequences for breaching the confidentiality of peer review?

In addition, since most biomedical journals claim to follow COPE guidelines (now in excess of 11,500 members<sup>12</sup>) and/or ICMJE recommendations, the content of the guidelines issued by ICMJE (2017) (Table 2), and those by COPE (2013) (Table 3) was interpreted. Among the confidentiality statements examined, none showed any provisions for directly protecting confidentiality if a manuscript is rejected nor do these statements outline the consequences for offenders if the confidentiality of peer review is breached. Tables 2 and 3 show that both ICMJE and COPE guidelines, respectively, call for the protection of confidentiality of peer review during and post peer review, and even though both guidelines consider the content of the entire manuscript to be confidential, they do not state the consequences that reviewers should face for breaching confidentiality.

Our impression is that the lack of clear and serious stated consequences for the breach of confidentiality of peer review could lead to violations of an author's right to set conditions for reviewers to access authors' unpublished manuscripts during peer review and consequently, to timely peer review (Table 2. Timeliness statements), rights that are supported by COPE and ICMJE statements describing peer reviewers' duties and obligations with regards to protecting the confidentiality of peer review. Our argument is that if reviewers have a duty to protect the confidentiality of peer review, it then follows that authors have a normative right<sup>13</sup> to set conditions for reviewers to access authors' unpublished manuscripts during peer review. As Rainbolt (2006, p. 47) argues in his book, "rights are frequently unmentioned until and unless they are violated or threatened with violation." Inferring from previous studies reporting on how "reviewers delayed the review so that s/he could publish an article on the same topic" (Resnik et al. 2008). It is underlined that a similar argument also applies to authors' rights to timely peer review. To deny these two authors' rights (i.e., conditional access and timely peer review) would then be fundamentally illogical because it empties any claim that peer review of biomedical research is confidential. These two rights are discussed next.

### **Authors Should Have a Right to Set Conditions for Reviewers to Access Their Unpublished Manuscripts During the Peer Review Process**

Recent incidents of reviewers abusing the peer review process by stealing ideas, text, or manuscripts call attention to the need for better protection of authors' right to, among others, respect the confidentiality of their submitted manuscripts (Al-Khatib and Teixeira da Silva 2017a). This right protects the confidentiality of their communications with editors and reviewers, including their data sets, their research protocols, their manuscript drafts during the peer review process, and until the manuscript is complete, that is, until it is published. Below follows a discussion of reasons why such rights should be guaranteed to authors who, without protection of their rights, may be reluctant to share their research findings or data sets before their research findings are published, which is a core argument against the use of preprints. The open data movement encourages authors to make their data sets available after acceptance, ideally in the form of an open repository. Although making data more open increases the chance of data theft (Teixeira da Silva and Dobránszki 2015b) and subsequent

<sup>12</sup><https://publicationethics.org/members>.

<sup>13</sup>Rainbolt argues in his book *The Concept of Rights* (page xiv) that "the key to understanding rights is to see them as normative constraints on others..."

manipulation, even if such a theft is detected post-publication, such a policy would represent a failure to offer protection against theft, and thus increase skepticism of such a policy.

**The Confidentiality of Peer Review is Upheld by Courts—**Rockwell (2006) describes how violating the ethics of confidentiality undermines the trust of authors and editors, and compromises the integrity of peer review. Thus, the right to set conditions for reviewers before accessing an author's submitted manuscript should be protected and may even be enforceable by law, by virtue of being the creator of a novel work, who have worked day and night to finalize a potentially publishable work, which they would not communicate with editors and peer reviewers without trusting in a situation that those who receive their manuscripts have a duty to protect the confidentiality of their scholarly work, which is disclosed in confidence to them for peer review (Heywood 2008).<sup>14</sup> In this vein, would Dansinger (2017), who estimated that his stolen, i.e., plagiarized, work had taken 5 years or 4000 h to complete, have submitted his findings to AIM had he anticipated any breach in confidentiality? It is therefore our opinion that if journals have a right not to disclose information even if they receive a subpoena, or a request for confidential peer review documents, why then do they not strive to protect the confidentiality of authors' submissions? it is thus hard not to argue that what follows, is that the scientific community should not accept the argument that authors do not have a right to set conditions for reviewers to access authors unpublished manuscripts during peer review. Moreover, if a journal's right to confidentiality of peer review has been upheld by the courts (Parrish and Bruns 2002), is that not enough to substantiate an author's right to request protection for confidential information in their submitted manuscripts?

Parrish and Bruns (2002), in their article, illustrated how a US court quashed a subpoena by a litigant who sought material related to the submission of an article that was in press. In that case, the court noted that "the article is not finished, is subject to revision and should not be considered complete until it is published." They further reported that the court wrote that "[T]he product of [the author's] efforts is fairly considered confidential." It is unclear why the courts used the term "fairly". Thus, if the confidentiality of manuscript submissions can be enforceable by law, is set out in the ethical guidelines for peer reviewers, and given that plagiarism in reviewing research meets the definition of research misconduct as outlined by the US ORI (see earlier text), then it follows that there is no doubt that biomedical researchers who submit their research findings for publication have a legal right to set conditions for reviewers to access the authors' unpublished manuscripts during peer review, and that journal editors with whom authors communicate directly should conduct due diligence in safeguarding the confidentiality of an author's submission.

In light of the aforementioned, it is argued that editors and reviewers of biomedical research should be held to a higher standard (i.e., expectations) for safeguarding the confidentiality of peer review, because authors give them access to their research protocols, photographs of patients, genuine innovative ideas and even data sets. Thus, authors need to trust that not

<sup>14</sup>Heywood (2008) argued: "if a journal's policy is that author/editor correspondence is confidential and the journal will not disclose information about manuscripts or peer reviews without an author's or reviewer's permission, an obligation of confidence arises. If the journal breaches this, the author or the reviewer may have a claim for damages for breach of confidence on the basis that he/she submitted material to the journal on the basis that the information would be treated as confidential and it was not".

only will peer reviewers preserve the confidentiality of submitted manuscripts, but will respect their obligation not to use the authors' ideas for personal gain, i.e., steal or plagiarize ideas (Resnik et al. 2008; Resnik and Elmore 2016), even in the case of a desk rejection (Teixeira da Silva et al. 2017b) or a post-review rejection. Reviewers that decide not to review a manuscript after accepting to do so, for whatever reason, should be bound by a pre-signed confidentiality agreement prior to receiving documents, that prevents them from making copies, distributing information from within that paper, or using any information from that paper in any inappropriate way that benefits them (personally or professionally), or any third party.

### **Editors and Reviewers Have a Duty to Preserve the Confidentiality of Peer**

**Review**—To support our argument further, although the US ORI instructs that confidentiality is required during the peer review of a manuscript and that “[p]eer reviewers have an obligation to preserve confidentiality during the review process if they have been asked to do so”,<sup>15</sup> the duty of confidentiality owed to authors is set out in the COPE guidelines for peer reviewers (COPE 2013), which states that reviewers should adhere to basic principles and standards, i.e., reviewers should “respect the confidentiality of peer review and not reveal any details of a manuscript or its review, during or after the peer-review process, beyond those that are released by the journal.” COPE further states in these guidelines that even after peer review, reviewers are expected to “continue to keep details of the manuscript and its review confidential.” Additionally, the ICMJE (ICMJE 2017) stipulates that “[m]anuscripts submitted to journals are privileged communications that are [the] authors' private, confidential property, and authors may be harmed by premature disclosure of any or all of a manuscript's details.” These provisions further emphasize the foundations for the right of authors to set conditions for reviewers to access authors' unpublished manuscripts during peer review.

Needless to say that, authors are required to honestly report their findings and to be responsible and accountable when they submit their manuscripts for possible publication. Therefore, without safeguarding their intellect, how can such responsibility be maintained if authors decline to disclose their findings and data because they fear the theft of their ideas? This is a legitimate fear and question that will hopefully trigger a discussion and will urge publishers and editors to explore the issue more deeply, and urgently. In other words, the due diligence<sup>16</sup> in safeguarding the confidentiality of peer review is an obligation that is expected from editors and reviewers from the start of the peer review to finish, i.e., at initial submission of the manuscript until acceptance and after rejection. Thus, editors have a duty to carefully select expert reviewers and ensure that the confidentiality of the submitted manuscript is fully respected during the reviewing process. This duty may not be properly fulfilled unless biomedical journals implement visible carefully crafted confidentiality

<sup>15</sup><https://ori.hhs.gov/chapter-10-peer-review-Preserving-confidentiality>.

<sup>16</sup>By due diligence, we mean the steps taken by editors and reviewers to detect the risk of confidentiality breaches and the measures they employ to prevent harm to authors. For example, if an editor invites a competitor without indicating that the abstract or manuscript is a privileged communication, that the author has submitted in confidence, or if a reviewer shares the author's ideas with a third party, this, in our opinion represent a failure to exercise due diligence, and thus could lead to irreparable harm. Our use of the term “due diligence” in the context of this paper is derived from its definition by Merriam-Webster Dictionary. <https://www.merriam-webster.com/dictionary/due%20diligence>: “[T]he care that a reasonable person exercises to avoid harm to other persons or their property; failed to exercise due diligence in trying to prevent the accident”.

agreements such as the statement used by *Cell* (Table 4), between authors and editors and reviewers, although it is recommended that confidentiality statements indicate the consequences of breaching the confidentiality of peer review. In addition, when editors contact reviewers, this should be made clear upon reviewers' acceptance to screen the manuscript; even if they decline to review the manuscript, or finally reject it, they accept to be held accountable if they breach the confidentiality of peer review. This implies that reviewers who decline to review, or recommend a rejection, are prohibited to use any content of the submitted manuscript in their own publications, steal authors' ideas or disclose them to third parties.

### **Assessment of Publishers' and Journals' Confidentiality Statements—**

Fortunately, most biomedical journals that were examined (Table 4)<sup>17</sup> have confidentiality statements, either on their websites or their publisher's website. These statements or policies indicate that editors and invited reviewers are under an ethically, and legally binding obligation to refrain from discussing the submitted manuscript with a third party or to disclose any information they receive during the peer review process. However, it is argued that the obligation to respect the confidentiality of peer review should be fulfilled, even if reviewers decline to review or even if the manuscript is desk rejected (Teixeira da Silva et al. 2017b) since any premature disclosure of authors' ideas, research protocols, or data may cause irreparable harm to authors, and may deprive them of significant credit or competitive advantage in their research field, especially when they submit original ideas or cutting edge research protocols. Furthermore, reviewers should respect ownership of copyright to the submitted manuscript. If reviewers infringe upon an owner's copyright, they should be held accountable for their actions. Unfortunately, such a right may be difficult to enforce given the rise in international collaboration and the complexity and the cost that might be incurred in recovering damages. In this context, it is worthy to note that authors' ideas are not protected by copyright.<sup>18</sup> In this regard, reviewers should be reminded of remarks by John Commons in his book *Legal Foundations of Capitalism* which remain valid to this date: "If the author loans the manuscript to a friend to read and return, he has not dedicated it to the public, and the publication may be restrained by injunction." In other words, before publication, the author possesses the manuscript as a physical object. The author controls access to this physical object and their rights can be protected on this basis. However, after publication, the author does not possess the manuscript as a physical object any longer (Commons 1924, p. 181). Based on Commons' remarks and in the light of difficulties in identifying and remedying copyright infringements, plagiarism or breach of confidentiality by unethical anonymous peer reviewers, it is argued that authors have a right to set conditions for reviewers to access authors unpublished manuscripts during peer review. Thus, protecting authors' ideas before publication can only be satisfied if journals implement confidentiality agreements signed by editors and reviewers upon receipt of manuscripts submitted for publication in their journal. Such an approach is a requirement

<sup>17</sup>See for example, Taylor and Francis guidelines for ethical publishing for authors, reviewers, and journal editors <http://editorresources.taylorandfrancisgroup.com/publishing-ethics-2/>; see also guidelines by Elsevier <https://www.elsevier.com/reviewers/how-to-conduct-a-review>, by Wiley <https://authorservices.wiley.com/Reviewers/journal-reviewers/review-confidentiality-policy.html> and by Springer Nature <https://www.springer.com/gp/authors-editors/authorandreviewertutorials/howtopeerreview/accepting-an-invitation-to-review/10286396>.

<sup>18</sup><https://www.copyright.gov/circs/circ01.pdf>.

under the aforementioned NIH Confidentiality and Nondisclosure Rules which prohibit a peer reviewer from “[p]articipating in NIH peer review without signing a confidentiality certification.”

The lack of carefully drafted confidentiality agreements raises questions regarding the logic of an editor who recently refused to review manuscripts unless its authors make their data available (Naik 2017). Publishers and editors are thus invited to examine the issue of requesting hard earned data without providing appropriate protection for the confidentiality of authors’ submissions, even by journals that practice open peer review, because authors need to be assured that their submitted ideas and data will be kept in the strictest confidence, and safe, until their articles are published and their intellect is formally acknowledged in the public domain.

**Authors Have a Right to Timely Peer Review**—The ICMJE (2017) outlines the responsibilities of editors during the peer review process and describes the importance of timely peer review by stating: “If editors intend to publish a manuscript, they should attempt to do so in a timely manner and any planned delays should be negotiated with the authors.” Further, the Budapest Open Access Initiative recognizes “the right of authors to be properly cited and acknowledged” (Open Society Institute 2002). Many can appreciate the difficulties editors have preventing publication delay as a result of not being able to find suitable peer reviewers that are able to complete a timely peer review (Tite and Schroter 2007). It is emphasized that corrupting peer review, due to professional rivalry or the intention to plagiarize a manuscript under review, may delay the publication of an author’s submission (Kumar 2014). Such delays, arguably, deny authors their right to be acknowledged and cited as early as their publication appears online, because timely review ensures the novelty and priority of their publication, especially in rapidly evolving biomedical research fields (Teixeira da Silva and Dobránszki 2017). Authors’ rights are protected the moment their paper is submitted and when it appears publicly, i.e., online. In this context, this paper highlights a previous experience with *Nature* which reported a case of a reviewer who was asked to review a manuscript similar to a project the reviewer was working on. That reviewer, during the process of peer review, obtained material information from the submitting author to complete their own work, all while obstructing the submitted manuscript and scooping their ideas in order to promptly publish their own research (Nature 2001).

Recognizing and protecting the right of authors to timely peer review is not only of interest to authors who perceive the speed of publication as one of the most important factors when they make decisions as to which journal to submit their manuscripts (Solomon and Björk 2016), it is of equal importance to journals (Clark et al. 2000), as timely publication of hot and topical articles ensures increased article citations, and thus improves citation-based journals’ metrics, which have arguably been key indicators of journals’ performance (Moed et al. 2012), but not necessarily quality.

Furthermore, timely publication is of exceptional importance in biomedical research. As timely reporting of procedures or side effects for example could inform health care professionals, especially if a submitted manuscript reports a negative outcome and suggests



modifications to certain procedures, treatments or advises health care quality decisions or if an article informs policy makers and makes specific recommendations to clinical guidelines. Therefore, it is argued that delaying the peer review of biomedical manuscripts is unethical as it is likely to have serious implications on more than one level including authors, healthcare professionals, policy makers and patients. In this context, it suffices to remember the move by high profile organizations, the Wellcome Trust, the Bill and Melinda Gates Foundation, Médecins Sans Frontiers, the US National Institute of Health, the Chinese Academy of Science and leading publishers such as the Public Library of Science and Springer Nature, to speed up the release of Zika virus research in response to public health emergencies (Curry 2016).

## Possible Solutions

Given increasing instances of mistrust and “fake” events in science, peer review and publishing (Teixeira da Silva 2017a), which are fueling fundamental issues of trust in the publishing system (Teixeira da Silva and Shaughnessy 2017), there has been a wave of ideas in the past few years on how to revamp and recreate different aspects of peer review and different aspects within the publishing process that could increase trust, or reinstate it, to fortify peer review and its validity, and to improve reproducibility. Several models have recently been suggested (Tennant et al. 2017). All of these aspects are intricately inter-related, and the solution to one automatically may imply a solution to the others. Despite this, the main focus of this paper is the confidentiality and timeliness of peer review. Peer review is a process of both certification and validation, and thus the process must take place within an ambience of trust and defined norms. In this section, ideas that could help to reduce intellectual property theft and would protect the confidentiality of peer review are put forward.

1. Journals should take stringent measures to protect the confidentiality of peer review. The first step in this context is to ask editors and reviewers to sign confidentiality agreements, where consequences to the breach of the confidentiality of peer review are explicitly stated. These must be publicly visible on each journal's website. Authors do not have the time or patience to dig up such information or be directed to publishers' ethics platforms, or email journal editors in order to discover the scope and boundaries of confidentiality protection their submission will be afforded.
2. The culture of requesting authors to suggest peer reviewers must cease (Teixeira da Silva and Al-Khatib 2017a). Although editors may often argue that authors will know which peers in their field of study are best suited to offer a critical assessment and evaluation of their work, many peers will be inherently biased for, or against, that research, either as interested parties, or as direct competitors, respectively (Kumar 2014). Nevertheless, the possibility of professional rivalry is likely to be higher and as a consequence, competitors may delay publication, plagiarize or steal ideas in manuscripts, and use them in their own research. Admittedly, different sources of bias may not be identified, recognized or declared (Spier 2002b).

3. Editors who invite reviewers should make it explicitly clear that they are entrusted with a privileged communication (WAME 2015), i.e., author's manuscript and should not use the submitted manuscript in their teaching or hand it to a graduate student to complete the review, even if only the abstract is visible to reviewers. Clearly, in biomedical research, the abstract contains confidential information, such as research protocols, innovative and ground-breaking findings, and that these should not be disclosed or used by reviewers for personal gain, even if reviewers decline to review. This recommendation is well grounded in the White Paper on Publication Ethics by the Council of Science Editors (CSE 2012) which states: "Editors should consider adding a confidentiality notice to all correspondence, including reviewer forms, to serve as a reminder to authors, editors, and reviewers".<sup>19</sup>
4. Peer review should shift from its current state of anonymous or blind nature to a form of open peer review as this would increase transparency and accountability, and is likely to speed up the peer review process (Powell 2016). Although, some may argue that this system also has its inherent flaws, including the desire of reviewers not to have their identities known, for fear of professional critique or retaliation, thus drastically reducing the available peer pool.
5. The culture of peer review needs to embrace post-publication peer review (PPPR) (Teixeira da Silva 2015a, b) and the solidification of journal clubs (Teixeira da Silva et al. 2017a) to identify possible porous peer review, plagiarists and incompetent reviewers, as the endorsement of mandatory PPPR is likely to detect plagiarism of ideas by repeat plagiarists. When these are detected, publishers can trace stolen ideas, link them to manuscripts previously reviewed by repeat plagiarizing reviewers, identify breaches to confidentiality and take corrective measures. If the integrity of the literature is impacted by the acts of those unethical reviewers, the literature needs to then be corrected accordingly. This will be a long and painful, but necessary, process.
6. Editors who are found to be in violation of editorial codes of conduct, who fail to respond to PPPR reports, or correct the literature when errors are reported, should be immediately removed from editorial boards. Failure to remove unprofessional or conniving editors from editorial boards only serves to undermine the trust in that journal, and brings a culture of shame to that journal's image. The same principle applies to the publisher. The situation becomes even more worrisome, and necessary, when such members are paying COPE or ICMJE members (Teixeira da Silva 2017b).
7. Peer reviewers, or editors who oversee them, who request the citation of their journal or their own papers without any direct context should be labelled as misconduct (Teixeira da Silva 2017c). Such a request may corrupt the peer review process and delay publication.

<sup>19</sup><http://cseditors.wpengine.com/resource-library/editorial-policies/white-paper-on-publication-ethics/2-1-editor-roles-and-responsibilities/#212>.

8. Excessively long peer review may not only indicate that editorial processing is fraught with problems and incompetence, it may also reflect that the theft of data or ideas may be taking place, and that peer reviewers are possibly buying time to incorporate those plagiarized ideas into their own publications. Thus, stricter editorial responses, peer review periods, and acceptance to publication periods are essential (Teixeira da Silva and Dobránszki 2017). To counter this problem, editors need to check up on reviewers regularly and cut them off when they exceed a specified amount of time.<sup>20</sup> This solution solves the issue of wasting time, but it still does not resolve the issue of potential theft of data and ideas.
9. The qualifications of editors and peer reviewers must be fully vetted prior to recruitment, and should be a selection process made exclusively by editors (Teixeira da Silva and Al-Khatib 2017b). Marginally qualified or unqualified individuals with a weak or suspect publishing record should be avoided (WAME 2015).
10. Lax controls will ultimately victimize authors. There is now widespread recognition in the publishing industry that the system has been porous at many levels, leading to some loss of trust, and a sudden increase in the “militarization” of the system, to increase its robustness (Teixeira da Silva 2016b), although the increase in the number of submissions and published papers overall suggests that confidence in the current publication system remains strong, which is not surprising because academics’ survival and livelihood depend on their publishing productivity and output.
11. University rankings should consider ethical violations by institutions that do not have research misconduct policies, or who fail to investigate cases of suspected misconduct properly. It should be made clear that the global higher education community has zero tolerance for research misconduct, specifically for the theft of authors’ ideas during the peer review process.
12. Authors whose publications are delayed should contact publishers and file a complaint, but for this to occur, the journal must have an unbiased complaint system in place, preferably handled by an ombudsman. Such an approach could urge publishers and editors to respect the timeliness of peer review. Such a policy would also bring attention to the possibility of intellectual theft, initiate a timely investigation, and thus facilitate the detection of possible unethical reviewers.
13. Publishers should have grievance policies, visible at their journals websites so that authors report any misconduct they might experience during the peer review process. Such policies should address helping authors whose publications are being delayed, whose ideas may have been stolen and who may have been harmed by any ethical lapses, so that relevant journals can investigate and remedy such situations.

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<sup>20</sup>At Springer Nature, this is done automatically in Editorial Manager®.

14. Publishers should have tools to trace stolen ideas and track responsible reviewers. At a minimum, publishers should publicly acknowledge victimized authors who have been harmed by unethical editors and reviewers, either by having their ideas stolen or their publication delayed, and were deprived of due credit or the use of their publications in job applications, promotion or tenure.
15. Publishers should have a black list of unethical reviewers, should report them to their institutions and ban them from the publishing process since their scholarly background cannot be trusted.
16. Respect of intellect, its confidentiality, and its privacy, can only exist when there is a culture of respect for the human resources that contribute to the publishing process. The fact that peers and editors are being excessively exploited, without fair and due compensation, calls to the heart of respect within such an exploitative publishing model. In such a climate, it is not unreasonable to expect dishonest behavior, including confidentiality violations.

## Conclusions

In the process of disseminating knowledge gained from biomedical research, during peer review, authors entrust editors and reviewers with novel ideas, ground breaking discoveries and confidential information such as patients' data and clinical findings. Recent revelations of incidents of plagiarism of authors' ideas by peer reviewers indicate that there is an urgent need to consider the recommendations proposed above, especially in light of requiring authors to consider raw data sharing with editors and reviewers. Failure to implement measures that would protect the confidentiality of authors' communications with journal editors and reviewers before publication could lead to a complete loss of trust in the peer review of some biomedical journals, and could discourage compliance with data sharing requirements, a topic that is worthy of further investigation.

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**Table 1**

Details of three retraction notices due to reviewer-based plagiarism during the peer review process

References	Retraction notice
Sticklen (2010) <a href="http://www.nature.com/nrg/journal/v11/n4/full/nrg2777.html">http://www.nature.com/nrg/journal/v11/n4/full/nrg2777.html</a>	I am retracting this invited Nature Reviews Genetics article due to a paragraph being paraphrased without attribution. The paragraph in question was from an early version of an article to which I had access as a peer reviewer and which has since been published in Plant Science [Abramson, M., Shoseyov, O. and Shani, Z. Plant cell wall reconstruction toward improved lignocellulosic production and processability. Plant Sci. 178, 61–72 (2010)]. I regret this error and wish to apologize to the authors of the Plant Science article
Khan et al. (2015) <a href="http://onlinelibrary.wiley.com/doi/10.1111/jfpe.12531/abstract">http://onlinelibrary.wiley.com/doi/10.1111/jfpe.12531/abstract</a>	The above article from the Journal of Food Process Engineering, published online on 23 October 2014 in Wiley Online Library ( <a href="http://onlinelibrary.wiley.com/doi/10.1111/jfpe.12132/full">http://onlinelibrary.wiley.com/doi/10.1111/jfpe.12132/full</a> ), has been retracted by agreement between Nasir Mehmood Khan, the Editors-in-Chief, M. Elena Castell-Perez and Rosana Moreira, and Wiley Periodicals, Inc. The retraction has been agreed due to a breach of reviewer confidentiality relating to a paper submitted to another journal and lack of agreement by all authors to submit the paper on their behalf
Yan et al. (2015) <a href="http://onlinelibrary.wiley.com/doi/10.1002/celc.201500294/full">http://onlinelibrary.wiley.com/doi/10.1002/celc.201500294/full</a>	The above article, published online on 11 February 2015 in Wiley Online Library (wileyonlinelibrary.com), and in Volume 2, pp. 578–583, has been retracted by agreement between the Editor-in-Chief, Greta Heydenrych, Wiley–VCH Verlag GmbH and Co. KGaA and the corresponding author, Junwei Di. This retraction has been agreed upon because the above mentioned manuscript contains substantial sections of text from a manuscript (still unpublished) that the corresponding author has reviewed for a different journal, thus abusing his privilege as peer reviewer. ChemElectroChem has been alerted to this by the editor of the other journal, who was informed by the author of the manuscript under review

**Table 2**

International Committee of Medical Journal Editors (2017) responsibilities in the submission and peer-review process

Confidentiality statements	Editors	Reviewers
Manuscripts submitted to journals are privileged communications that are authors' private, confidential property, and authors may be harmed by premature disclosure of any or all of a manuscript's details	Editors therefore must not share information about manuscripts, including whether they have been received and are under review, their content and status in the review process, criticism by reviewers, and their ultimate fate, to anyone other than the authors and reviewers. Requests from third parties to use manuscripts and reviews for legal proceedings should be politely refused, and editors should do their best not to provide such confidential material should it be subpoenaed	Reviewers and editorial staff members must not publicly discuss the authors' work, and reviewers must not appropriate authors' ideas before the manuscript is published. Reviewers must not retain the manuscript for their personal use and should destroy paper copies of manuscripts and delete electronic copies after submitting their reviews
Confidentiality may have to be breached if dishonesty or fraud is alleged	Editors should notify authors or reviewers if they intend to do so and confidentiality must otherwise be honored	
Timeliness statement	Editors should do all they can to ensure timely processing of manuscripts with the resources available to them. If editors intend to publish a manuscript, they should attempt to do so in a timely manner and any planned delays should be negotiated with the authors. If a journal has no intention of proceeding with a manuscript, editors should endeavor to reject the manuscript as soon as possible to allow authors to submit to a different journal	Reviewers are expected to respond promptly to requests to review and to submit reviews within the time agreed

**Table 3**

COPE ethical guidelines for editors and [peer reviewers [http://publicationethics.org/files/Peer%20review%20guidelines\\_0.pdf](http://publicationethics.org/files/Peer%20review%20guidelines_0.pdf)]

Confidentiality statements	Editors	Reviewers
	Under relation with reviewers: "Editors provide guidance to reviewers. Reviewers should respect the confidentiality of material supplied to them and may not discuss unpublished manuscripts with colleagues or use the information in their own work."*	Peer reviewers should respect the confidentiality of peer review and not reveal any details of a manuscript or its review, during or after the peer-review process
	Reviewers should respect the confidentiality of material supplied to them and may not discuss unpublished manuscripts with colleagues or use the information in their own work.*	Peer reviewers should not involve anyone else in the review of a manuscript, including junior researchers they are mentoring, without first obtaining permission from the journal
	You should also have systems in place to ensure that peer reviewers' identities are protected—unless your journal has an open review system that is declared to authors and reviewers.*	Peer reviewers should keep all manuscript and review details confidential
		Peer reviewers should continue to keep details of the manuscript and its review confidential (post peer review)
		Peer reviewers should not use information obtained during the peer-review process for their own or any other person's or organization's advantage, or to disadvantage or discredit others
Timeliness	You should ensure that peer review is undertaken in a timely fashion so that authors do not experience undue delays. This will usually involve monitoring the process regularly and trying to increase efficiency and prevent delays	"Peer reviewers should: respond in a reasonable time-frame, especially if they cannot do the review, and without intentional delay. only agree to review manuscripts for which they have the subject expertise required to carry out a proper assessment and which they can assess in a timely manner acknowledge that peer review is largely a reciprocal endeavour and undertake to carry out" their fair share of reviewing and in a timely manner
Other aspects *	Reviews should be conducted objectively Personal criticism of the author is inappropriate Reviewers should express their views clearly with supporting arguments and references as necessary and not be defamatory or libelous Reviewers should declare any competing interests Reviewers should decline to review manuscripts in which they have a competing interest resulting from competitive, collaborative, or other relationships or connections with any of the authors, companies, or institutions connected to the papers Any reviewer that wants to pass a review request onto a colleague must get the editor's permission beforehand Journals should have systems for assessing the performance of reviewers and removing from the database those whose performance is not acceptable	

\* COPE (2016)

**Table 4**

Examples of journals' confidentiality statements that reviewers are supposed to read before accepting to review for that journal

Journal	Confidentiality statement
General ethics and publishing	
<i>Learned Publishing</i> <a href="http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1741-4857/homepage/guide_for_reviewers.htm">http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1741-4857/homepage/guide_for_reviewers.htm</a>	Please remember that reviewers have privileged access to articles, so we ask that you respect the authors' confidentiality and do not disclose any information about the article prior to publication
<i>Science and Engineering Ethics</i> <a href="http://www.springer.com/philosophy/ethics+and+moral+philosophy/journal/11948">http://www.springer.com/philosophy/ethics+and+moral+philosophy/journal/11948</a>	Confidentiality statements by Springer: "Manuscripts under review are highly confidential, so you should not discuss the manuscript—or even mention its existence—to others. One exception is if you would like to consult with a colleague about your review; in this case, you will need to ask the editor's permission. It is normally okay to ask one of your students or postdocs to help with the review. However, you should let the editor know that you are being helped, and tell your assistant about the need for confidentiality"
<i>Ethics and Behavior</i> <a href="http://www.tandfonline.com/toc/hebh20/current">http://www.tandfonline.com/toc/hebh20/current</a>	Editors and reviewers "must keep the peer review process confidential; information or correspondence about a manuscript should not be shared with anyone outside of the peer review process"
Medical (general)	
<i>Alzheimer's Research and Therapy</i> <a href="http://alzres.biomedcentral.com/submission-guidelines/peer-review-policy">http://alzres.biomedcentral.com/submission-guidelines/peer-review-policy</a>	Editors will treat all manuscripts submitted to all BioMed Central journals in confidence. BioMed Central adheres to COPE's Ethical Guidelines for Peer Reviewers. Reviewers are therefore required to respect the confidentiality of the peer review process and not reveal any details of a manuscript or its review, during or after the peer-review process, beyond the information released by the journal. If reviewers wish to involve a colleague in the review process they should first obtain permission from the journal. The Editor should be informed of the names of any individuals who assisted in the review process when the report is returned
<i>Annals of Biomedical Engineering</i> <a href="http://www.springer.com/biomed/journal/10439">http://www.springer.com/biomed/journal/10439</a>	No confidentiality statements. Statement by Springer: "Manuscripts under review are highly confidential, so you should not discuss the manuscript—or even mention its existence—to others. One exception is if you would like to consult with a colleague about your review; in this case, you will need to ask the editor's permission. It is normally okay to ask one of your students or postdocs to help with the review. However, you should let the editor know that you are being helped, and tell your assistant about the need for confidentiality"



Journal	Confidentiality statement
<p><i>Annals of Internal Medicine</i>  <a href="http://annals.org/aim/pages/reviewers">http://annals.org/aim/pages/reviewers</a></p>	<p>The staff at Annals keeps author correspondence confidential, unless it is intended for publication (e.g., as a comment on a published article). We also ask that authors and reviewers keep editorial correspondence confidential...</p>
<p><i>CA: A Cancer Journal for Clinicians</i>  <a href="http://onlinelibrary.wiley.com/journal/10.3322/(ISSN)1542-4863">http://onlinelibrary.wiley.com/journal/10.3322/(ISSN)1542-4863</a></p>	<p>[W]e expect all peer reviewers to comply with COPE's Ethical Guidelines for Peer Reviewers, including respecting the confidentiality of peer review and not revealing any details of a manuscript or communications related to it, during or after the peer-review process, beyond those that are released by the journal</p>
<p><i>Cell</i>  <a href="http://www.cell.com/cell/home">http://www.cell.com/cell/home</a></p>	<p>Reviewers must preserve the confidentiality of unpublished work. Any manuscript or abstract sent for peer review is a confidential document and remains so until it is formally published</p>
<p><i>The Lancet</i>  <a href="http://www.thelancet.com/journals/lancet/issue/current">http://www.thelancet.com/journals/lancet/issue/current</a></p>	<p>No confidentiality statements however, the journals website shows this statement: "The Lancet is a signatory journal to the Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals, issued by the International Committee of Medical Journal Editors (ICMJE Recommendations), and to the Committee on Publication Ethics (COPE) code of conduct for editors. We follow COPE's guidelines</p>
<p>Dental</p> <p><i>International Dental Journal</i>  <a href="http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1875-595X">http://onlinelibrary.wiley.com/journal/10.1002/(ISSN)1875-595X</a>  <i>Community Dentistry and Oral Epidemiology</i>  <a href="http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1600-0528">http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1600-0528</a></p>	<p>We expect all peer reviewers to comply with COPE's Ethical Guidelines for Peer Reviewers, including respecting the confidentiality of peer review and not revealing any details of a manuscript or communications related to it, during or after the peer-review process, beyond those that are released by the journal</p>
<p><i>American Journal of Orthodontics and Dentofacial Orthopedics</i>  <a href="https://www.journals.elsevier.com/american-journal-of-orthodontics-and-dentofacial-orthopedics/">https://www.journals.elsevier.com/american-journal-of-orthodontics-and-dentofacial-orthopedics/</a>  <i>Archives of Oral Biology</i>  <a href="https://www.journals.elsevier.com/archives-of-oral-biology">https://www.journals.elsevier.com/archives-of-oral-biology</a>  <i>British Journal of Oral and Maxillofacial Surgery</i>  <a href="https://www.journals.elsevier.com/british-journal-of-oral-and-maxillofacial-surgery/">https://www.journals.elsevier.com/british-journal-of-oral-and-maxillofacial-surgery/</a></p>	<p>If you accept, you must treat the materials you receive as confidential documents. This means you can't share them with anyone without prior authorization from the editor. Since peer review is confidential, you also must not share information about the review with anyone without permission from the editors and authors</p>
<p><i>Oral Surgery, Oral Medicine, Oral Pathology, Oral Radiology</i>  <a href="http://www.oooojournal.net/">http://www.oooojournal.net/</a></p>	<p>Journal site directs to Elsevier publishing ethics <a href="https://www.elsevier.com/about/our-business/policies/publishing-ethics">https://www.elsevier.com/about/our-business/policies/publishing-ethics</a>, where confidentiality is listed as one of the duties of editors and reviewers as exemplified below:          "Duties of Editors          Publication decision          Fair play          Confidentiality          Disclosure and Conflicts of interest          Involvement and cooperation in investigations"</p>

Journal	Confidentiality statement
<i>Journal of Oral Microbiology</i> <a href="http://www.tandfonline.com/action/journalInformation?journalCode=zjom20">http://www.tandfonline.com/action/journalInformation?journalCode=zjom20</a>	Editors and reviewers “must keep the peer review process confidential; information or correspondence about a manuscript should not be shared with anyone outside of the peer review process
Plant science (general) <i>Plant Science</i> <a href="https://www.journals.elsevier.com/plant-science">https://www.journals.elsevier.com/plant-science</a>	Concern has been raised about the confidentiality of the review process for the article listed above, for which you served as a reviewer. As I am sure you are aware, ensuring the confidentiality of the submission and review process is critical to the scholarly publishing mission <sup>a</sup> If you accept, you must treat the materials you receive as confidential documents. This means you can't share them with anyone without prior authorization from the editor. Since peer review is confidential, you also must not share information about the review with anyone without permission from the editors and authors <sup>b</sup> Contribution to Editorial Decision; Promptness; Confidentiality; Standards of Objectivity; Acknowledgement of Source; Disclosure and Conflicts of Interest <sup>c</sup>
<i>Journal of Experimental Botany</i> <a href="https://academic.oup.com/jxb">https://academic.oup.com/jxb</a>	No publicly visible confidentiality statements <sup>d</sup>
<i>New Phytologist</i> <a href="http://nph.onlinelibrary.wiley.com/hub/journal/10.1111/(ISSN)1469-8137/">http://nph.onlinelibrary.wiley.com/hub/journal/10.1111/(ISSN)1469-8137/</a>	No publicly visible confidentiality statements on the journal's website. “We expect all peer reviewers to comply with COPE's Ethical Guidelines for Peer Reviewers, including respecting the confidentiality of peer review and not revealing any details of a manuscript or communications related to it, during or after the peer review process” <sup>e</sup>
<i>Plant Cell, Tissue and Organ Culture</i> <a href="http://link.springer.com/journal/11240">http://link.springer.com/journal/11240</a>	No publicly visible confidentiality statements on the journal website
<i>Acta Botanica Croatica</i> <a href="https://www.degruyter.com/view/j/botcro">https://www.degruyter.com/view/j/botcro</a>	No publicly visible confidentiality statements on the journal website

All websites, last accessed on August 13, 2017

<sup>a</sup> <https://www.elsevier.com/editors/perk/form-letter-f-to-reviewer>

<sup>b</sup> <https://www.elsevier.com/reviewers/how-to-conduct-a-review>

<sup>c</sup> <https://www.elsevier.com/about/our-business/policies/publishing-ethics>

<sup>d</sup> [https://academic.oup.com/jxb/pages/General\\_Instructions](https://academic.oup.com/jxb/pages/General_Instructions)

<sup>e</sup> <https://authorservices.wiley.com/Reviewers/journal-reviewers/review-confidentiality-policy.html>