Plagiarism detection by publishers

Are you aware that when you submit a paper to a journal it will probably be checked for plagiarism? As the number of publishers using software to detect plagiarism has increased, so have the instances where authors have been found to have plagiarised the work of others and even their own (Butler, 2010 [http://dx.doi.org/10.1038/466167a]). This type of scientific misconduct at the research level has become a major issue in the journal publishing industry. There are currently no clear set of standards, but publishers, research institutions and other organisations have developed policies and guidelines to advise authors in this area, some of which are outlined below.

Plagiarism detection

Publishers are routinely using plagiarism detection software to verify the originality of papers submitted to their journals. Most major publishers are members of CrossCheck [http://www.crossref.org/crosscheck.html] which uses the iThenticate software [http://crossref.ithenticate.com/] to scan papers for instances of plagiarism. Articles are compared against a database [http://research.ithenticate.com/index.html] containing web pages as well as published material including journals and books. This software is similar to Turnitin, the software used by the College to help detect potential student plagiarism [http://www3.imperial.ac.uk/ict/services/teachingandresearchservices/elearning/plagiarism]. Staff can submit their papers to Turnitin but must be aware that the database content is not identical to that of iThenticate.

Publisher guidelines

Most publishers provide detailed guidelines for authors wishing to submit an article to a journal, including information about plagiarism as well as the methods they used to screen papers. If you are considering submission to journal publishers, you need to be familiar with the following issues:

1. The publishers' and journal editors' definition of plagiarism (what is acceptable re-use of data, code, description of methodology and so on may vary across disciplines, but there is general agreement that plagiarism is the non-acknowledgement of other people's work or contributions)

- **IEEE** defines plagiarism as "the reuse of someone else's prior ideas, processes, results, or words without explicitly acknowledging the original author and source" [http://www.ieee.org/publications_standards/publications/rights/plagiarism_FAQ.html]
- The editor of **Anesthesia and Analgesia** has published a very comprehensive editorial [http://dx.doi.org/10.1213/ANE.0b013e3182095c73] (2011, 112(3)) about plagiarism, and the procedures in place to detect it. He outlines 5 'groups' of plagiarism identified in submitted articles: 'intellectual theft, intellectual sloth, plagiarism for scientific English, technical plagiarism, and self-plagiarism' (p.491)

2. Self-plagiarism, or duplicate publication, or multiple submissions to different journals

Self-plagiarism involves using one's own prior work without acknowledging its reuse. Editors and publishers consider it as serious (if not more) as standard plagiarism. Practices that can result in a charge of self-plagiarism include:

- Text recycling – reusing content that has previously been published
- Redundant or duplicate publication – authors must avoid multiple submissions of the same paper/same data to different journals

- 'Salami slicing' – reporting results of one study/project in separate publications when one would suffice
- Misuse of copyright – once a paper is published the copyright is held by the publisher and the work does not belong to the author

Nature's plagiarism policy includes self-plagiarism, or duplicate publication [http://www.nature.com/authors/policies/plagiarism.html].

The **American Chemical Society** states that "it is improper for an author to submit manuscripts describing essentially the same research to more than one journal of primary publication, unless it is a resubmission of a manuscript rejected for or withdrawn from publication" (Ethical obligations of authors, p.2) [http://pubs.acs.org/userimages/ContentEditor/1218054468605/ethics.pdf].

The majority of journals should provide guidance on plagiarism, including self-plagiarism, in their author guidelines, or as part of the publisher's policy on publication.

3. Publishers' procedures if author plagiarism is suspected

- Publishers provide guidelines for journal editors when dealing with suspected cases of plagiarism. See **Springer**'s Policy on publishing integrity (Section 2: Plagiarism/Duplicate Publication) [http://www.springer.com/authors/journal+authors?SGWID=0-154202-12-601001-0]
- **The Lancet** (2011) has recently published a comment piece [http://dx.doi.org/10.1016/S0140-6736(11)60075-5] on its editorial approach to plagiarism detection

4. Preferred referencing style

- All journals provide guidelines on how to cite and reference. For example, *Acta Biomaterialia*, published by **Elsevier,** uses the numerical-endnote style, outlined in its Guide for Authors [http://www.elsevier.com/wps/find/journaldescription.cws_home/702994/authorinstructions]

General guidance for authors

Ethical behaviour and good practice is expected at all levels of the research process. Plagiarism is usually a very contentious issue, and a number of organisations provide guidance to authors and researchers; guidance is also available for journal editors dealing with cases of possible misconduct.

The **Singapore Statement on Research Integrity** [http://www.singaporestatement.org/statement.html] was agreed by delegates from 51 countries at the 2nd World Conference on Research Integrity [http://www.wcri2010.org/index.asp] (2010).

The **Committee on Publications Ethics (COPE)** [http://publicationethics.org/] is a charitable membership-based organisation that provides advice to editors and publishers when dealing with cases of possible misconduct by authors, including plagiarism. Over 6000 publishers/editors are members worldwide. COPE has developed a series of flowcharts [http://www.publicationethics.org/resources/flowcharts] which outline the steps editors can follow when dealing with instances of suspected plagiarism.

One of COPE's resources is a database of all cases [http://www.publicationethics.org/cases] it has advised on since 1997. These cases cover a variety of practices/topics related to misconduct, such as:

- Multiple submissions [http://publicationethics.org/category/keywords/multiple-submissions]
- Overlapping publications (e.g. salami slicing) [http://publicationethics.org/category/keywords/overlapping-publications]
- Plagiarism [http://publicationethics.org/category/keywords/plagiarism] (this covers a huge range of types of plagiarism)
- Redundant publication [http://publicationethics.org/category/keywords/redundant-publication]

The **UK Research Integrity Office (UKRIO)** [http://www.ukrio.org.uk/home/] provides advice and support to researchers, research organisations, universities, etc., on research integrity and how to address misconduct in research. Their code of practice documents include:

- Code of practice for research: promoting good practice and preventing misconduct (2009) [http://www.ukrio.org.uk/sites/ukrio2/the_programme_of_work/live_document___code_of_practice_for_research.cfm]

- Procedure for the investigation of misconduct in research (2008) [http://www.ukrio.org.uk/sites/ukrio2/the_programme_of_work/procedure.cfm]

Research Councils UK (RCUK) has published its own guidance:

- Policy and code of conduct on the governance of good research conduct (2009) [http://www.rcuk.ac.uk/Publications/researchers/Pages/grc.aspx]

In the United States, the **Office of Research Integrity** (Department of Health and Human Services) [http://ori.hhs.gov/] promotes good research conduct through educational and other activities, and has published a guidance note giving its definition of plagiarism [http://ori.hhs.gov/policies/plagiarism.shtml] (1994). One of its major publications is aimed at authors:

- Roig, M. (last update 2009) Avoiding plagiarism, self-plagiarism, and other questionable writing practices: a guide to ethical writing [http://ori.dhhs.gov/education/products/plagiarism]

Institutions publish their own guidelines and advice to researchers. For example:

- University of Alaska Fairbanks: the Office of Research and Integrity **Research Ethics** [http://www.uaf.edu/ori/responsible-conduct/] documentation includes sections on publication, peer review, redundant publication and plagiarism [http://www.uaf.edu/ori/responsible-conduct/peer-review/].

Further reading

Akst, J. (2010) When is self-plagiarism OK? *The Scientist: NewsBlog.* [Online] Available from: http://www.the-scientist.com/blog/display/57676/ [Accessed 16 February 2011].

Bell, J. (2010) *Doing your research project: a guide for first-time researchers in education, health and social science*, 4th ed. Maidenhead: McGraw-Hill Open University Press.

Butler, D. (2010) Journals step up plagiarism policing: cut-and-paste culture tackled by CrossCheck software. *Nature*. [Online] 466, 167. Available from: http://dx.doi.org/10.1038/466167a [Accessed 16 February 2011].

Couzin-Frankel, J. & Grom, J. (2009) Plagiarism sleuths. *Science*. [Online] 324 (5930), 1004-1007. Available from: http://dx.doi.org/10.1126/science.324_1004 [Accessed 16 February 2011].

Kleinert, S. (2011) Checking for plagiarism, duplicate publication, and text recycling. *The Lancet*. [Online] 377(9762), 281-282. Available from: http://dx.doi.org/16/S0140-6736(11)60075-5. [Accessed 2 June 2011].

Price, A. (2006) Cases of plagiarism handled by the United States Office of Research Integrity 1992-2005. *Plagiary: Cross-Disciplinary Studies in Plagiarism, Fabrication, and Falsification*. [Online] 1, 46-56. Available from: http://hdl.handle.net/2027/spo.5240451.0001.001 [Accessed 3 March 2011].

Reich, E.S. (2010) Self-plagiarism case prompts calls for agencies to tighten rules. *Nature*. [Online] 468, 745. Available from: http://dx.doi.org/10.1038/468745a [Accessed 16 February 2011].

Roig, M. (2010) Plagiarism and self-plagiarism: what every author should know. *Biochemia Medica*. [Online] 20 (3), 295-300. Available from: http://www.biochemia-medica.com/content/plagiarism-and-self-plagiarism-what-every-author-should-know [Accessed 16 February 2011].

Shafer, S.L. (2011) You will be caught. *Anesthesia and Analgesia*, 112(3), 491-3. [Online] Available from: http://dx.doi.org/10.1213/ANE.0b013e3182095c73 [Accessed 3 June 2011].

Sidlecki, S. L., Montague, M. & Schultz, J. (2008) Writing for publication: avoiding common ethical pitfalls. *Journal of wound, ostomy & continence nursing*. [Online] 35 (2), 147-150. Available from: http://dx.doi.org/10.1097/01.WON.0000313636.83881.22 [Accessed 16 February 2011].

Singapore statement on research integrity. (2010) [Online] Available from: http://www.singaporestatement.org/ [Accessed 16 February 2011].

Titus, S.L., Wells, J.A. & Rhoades, L.J. (2008) Repairing research integrity. *Nature.* [Online] 453, 980-92. Available from: http://dx.doi.org/10.1038/453980a [Accessed 16 February 2011].

Vergano, N. (7 May 2009) Scientists explain why they plagiarize. *USA Today*. [Online] Available from: http://www.usatoday.com/tech/science/columnist/vergano/2009-03-07-plagiarize-scientists_N.htm [Accessed 16 February 2011].

Wager, L. (2011) *How should editors respond to plagiarism?* COPE discussion paper. [Online] Available at: http://www.publicationethics.org/files/COPE_plagiarism_disc doc_26 Apr 11.pdf [Accessed 2 June 2011].