REVIEWERS' INFORMATION PACK

This pack provides practical information for new and experienced reviewers who review for Elsevier-published journals. Included in this pack are resources to help you expedite the process of reviewing papers, Elsevier publishing policy and procedures, as well as advice from other reviewers and editors.

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www.elsevier.com/reviewers

1. ABOUT ELSEVIER

1.1. A Short History of Elsevier

Whereas historians have recorded science and medicine's key moments of progress – from Galileo's celestial revelations to Fleming's discovery of penicillin to the recent identification of SARS as a Corona virus – few have taken the time to examine the role that publishers have played in the history of science.

Given that 2005 marked the 125th birthday of Elsevier and the 425th anniversary of the publishing house of Elzevir from which the modern company takes its name, the time seems right to redress that imbalance and reflect on the myriad ways in which Elsevier has played a role in the history of science for more than 130 years. In that time Elsevier has evolved from a small Dutch publishing house devoted to the promulgation of classical scholarship to an international multimedia publishing company that currently provides over 20,000 titles and products to science and healthcare communities worldwide.

Elsevier's history is one of a series of collaborations in the effort to advance science and health. The fruits of the collaboration between Elsevier and the eclectic group of scientific visionaries that it has published – ranging from Jules Verne to Stephen W. Hawking – are obvious. Less obvious, but no less important, are the cumulative efforts of the men and women who have dedicated their lives to disseminating and using scientific and medical knowledge: the editors, the printers, the librarians, the nurses, the doctors, the engineers, the information specialists, and the business people who coordinate the effort. Last but not least, Elsevier has enjoyed a number of crucial relationships with other great science publishers – North Holland, Excerpta Medica, Pergamon, Mosby, W. B. Saunders, Churchill Livingstone and Academic Press, to name but a few of the companies that are now part of the Elsevier family, bringing with them long and rich histories of their own.

Above: 'Le Patissier François', printed in 1655 by Louis and Daniel Elzevir

The use of the word 'Elzevir' as a noun describing a 'pocket-book' sized collector's edition of the classics became quite commonplace in the educated parlance of the late nineteenth century.

2. ABOUT PEER REVIEW

2.1. What is Peer Review?

Today, validation by peers and publication in a scientific journal continues to be the method through which authors register, validate, disseminate and archive their discoveries and results. The publication process and the speed at which articles are peer reviewed and published are key elements in the appropriate accreditation of scientific findings. Elsevier is an active participant in innovations intended to improve the current process, e.g. the Neuroscience Peer-Review Consortium.

The peer-review process is an essential part of the publishing process. It validates and confirms a researcher's work and establishes a method through which work can effectively be evaluated.

Although in recent years the peer-review process has attracted some criticism, it remains the only widely accepted method for research validation and a cornerstone of the scientific publishing process.

Elsevier, like most scientific publishing companies, relies on effective **peer-review** processes to not only uphold the quality and validity of individual articles, but also the overall integrity of the journals we publish.

2.2. Who are Reviewers?

Most reviewers are themselves authors, researchers, or sometimes, editors in their own right. Reviewers are in fact colleagues and fellow scientists who wish to directly contribute an integral part of the scientific process. With this in mind, reviewers play an essential part in science, and in scholarly publishing. For more than **300 years**, scientists and scholars have relied upon peer review to validate research, engage other specialists in the support of submitted work, and increase networking possibilities within specific specialist communities.

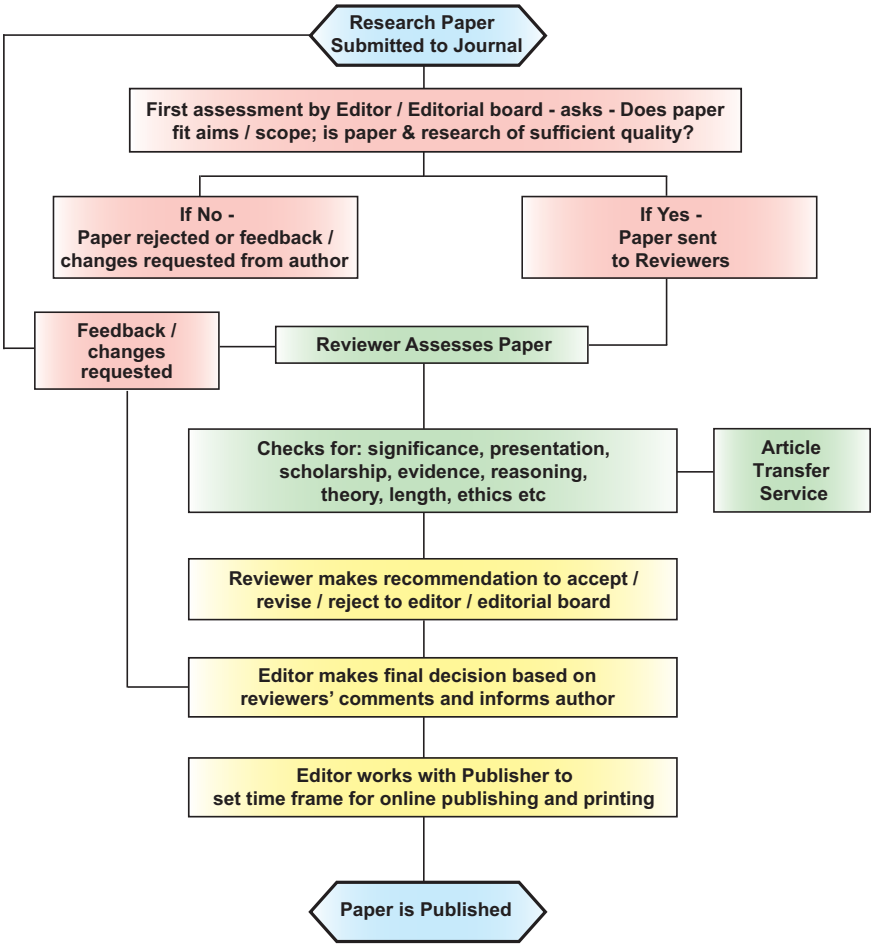
2.3. Why Reviewers Review?

The peer-review process allows authors and editors an opportunity to use and develop their own expertise in a number of significant ways. By assessing the quality and validity of another author's work, within the same area of expertise, a reviewer:

- **Ensures the continued rigorous standards of the scientific process** since the peer-review system has been in place for centuries and each generation of researchers engaged in the process contributes to the ever increasing wealth of scientific information
- **Upholds the integrity of the journal,** by identifying invalid research, as well as helping the journal maintain its quality and standards
- **Fulfills a sense of scientific obligation** to the community and their own area of concentration
- **Establishes relationships** with reputable colleagues and their affiliated journals, and may also increase his/her opportunity to be invited to join an Editorial Board
- **Reciprocates professional courtesy** as typically authors and reviewers are often interchangeable roles. In assisting an author with their paper, reviewers 'repay' the same courtesy they receive when authoring their own papers
- **Establishes expertise** in and knowledge of the field
- **Increases reputation** and exposure to key figures in the community
- **Stays current** and 'in the loop' with respect to the discipline's latest literature
- **Career Advancement:** service as a reviewer is an important element of a rounded academic vita. Elsevier provides certificates upon request to assist with official recognition of the reviewer's work by their institution.

2. ABOUT PEER REVIEW

2.4. Peer-Review Process



2. ABOUT PEER REVIEW

Experimenting with New Forms of Peer Review

Publishing Reviewer Reports

Reviewers play a vital role in the peer-review process yet their contributions often remain hidden. Three Elsevier journals are experimenting with a more transparent peer-review process, highlighting the role reviewers play by publishing supplementary review files, alongside the final online versions of articles, on ScienceDirect. With these more transparent approaches to peer review it is hoped to both acknowledge the important task of referees and enrich published articles, resulting in a more rewarding experience for readers.

Traditionally reviewers will, at one time or another, have been asked to review the same manuscript twice, even multiple times. Not only does this results in a waste of time and effort, it also demonstrates that some authors submit their research to journals which are simply not appropriate, either based on scope or impact.

Article Transfer Service

Our latest improvement to the manuscript submission process is a complimentary **Article Transfer Service (ATS)** designed to not only save authors' valuable time and effort when submitting their research but to also reduce the risk of reviewers receiving the same manuscript twice.

For more information on Article Transfer Service and the areas covered please visit: **www.elsevier.com/reviewers/reviewers-update/archive/issue-9/article-transfer-service**

2.5. Types of Peer Review

There are, essentially, three varieties of peer review:

Single Blind Review

The names of the reviewers are hidden from the author. This is the traditional method of reviewing, and is, by far, the most common type.

Advantage: Reviewer anonymity allows for impartial decisions free from influence by the author.

Disadvantages: Authors fear the risk that reviewers working in the same field may withhold submission of the review in order to delay publication, thereby giving the reviewer himself the opportunity to publish first.

Reviewers may use their anonymity as justification for being unnecessarily critical or harsh when commenting on the author's work.

Double Blind Review

Both the reviewer and the author remain anonymous.

Advantages: Author anonymity prevents any reviewer bias based on, for example, an author's country of origin or previous controversial work.

Articles written by 'prestigious' or renowned authors are considered on the basis of the content of their papers, rather than on the author's reputation.

Disadvantage: It is uncertain whether a paper can ever truly be 'blind' – especially in specialty 'niche' areas. Reviewers can often identify the author through the paper's style, subject matter or through self-citation.

Open Review

Reviewer and author are known to each other.

Advantages: Some scientists feel this is the best way to prevent malicious comments, stop plagiarism, prevent reviewers from drawing upon their own 'agenda' and encourage open, honest reviewing.

Disadvantage: Others argue the opposite view. They see Open Review as a less honest process in which politeness or fear of retribution may cause a reviewer to withhold or tone down criticism. For example, junior reviewers may hesitate to criticize more esteemed authors for fear of damaging their prospects. Independent studies tend to support this.

3. DUTIES OF REVIEWERS

3.1. Contributions to Editorial Decisions

As a reviewer you will assist the editor in making editorial decisions and through the editorial communications with the author may also assist the author in improving the paper. Peer review is an essential component of formal scholarly communication, and lies at the heart of the scientific method. Elsevier shares the view of many that all scholars who wish to contribute to publications have an obligation to review.

3.2. Promptness

If you feel unqualified to review the research reported in a manuscript or know that its prompt review will be impossible you should notify the editor and excuse yourself from the review process.

3.3. Confidentiality

You must treat as confidential, any documents and papers received for review. They must not be shown to, or discussed with others except as authorized by the editor.

3.4. Standards of Objectivity

You should conduct reviews objectively. Personal criticism of the author is inappropriate. You should express your views clearly with supporting arguments.

3.5. Acknowledgement of Sources

As a reviewer you should identify relevant published work that has not been cited by the authors. Any statement that an observation, derivation, or argument had been previously reported should be accompanied by the relevant citation. You should also call the editor's attention to any substantial similarity or overlap between the manuscript under consideration and any other published paper of which you have personal knowledge.

3.6. Disclosure and Conflict of Interest

Unpublished materials disclosed in a submitted paper must not be used in your own research without the express written consent of the author. Privileged information or ideas obtained through peer review must be kept confidential and not used for your personal advantage. You should not review any papers in which you have conflict of interest resulting from competitive, collaborative, or other relationships or connections with any of the authors, companies, or institutions connected to the paper.

3. DUTIES OF REVIEWERS

3.7. Adherence to Elsevier Publishing Ethics

The publication of an article in a peer-reviewed journal is an essential building block in the development of a coherent and respected network of knowledge. It is a direct reflection of the quality of the work of the authors and the institutions that support them. Peer-reviewed articles support and embody the scientific method. It is therefore important to agree upon standards of expected ethical behavior for all parties involved in the act of publishing: the author, the journal editor, the peer reviewer, the publisher and the society of society-owned or sponsored journals.

An important role of the publisher is to support the extensive efforts of journal editors, and the often unsung volunteer work undertaken by peer reviewers in maintaining the integrity of the scholarly record. It is a tribute to scholarly practice that the system works well and problems are comparatively rare. The publisher has a supporting, investing and nurturing role in the scholarly communication process and is also ultimately responsible for ensuring that best practices are followed.

Elsevier takes its duties of guardianship over the scholarly record very seriously. Our journal programmes record 'the minutes of science' and we recognize our responsibilities as the keeper of those 'minutes' in all our policies, including the guidelines we have adopted to support editors, reviewers and authors in performing their ethical duties.

We are committed to ensuring that advertising, reprint or other commercial revenue has no impact or influence on editorial decisions. In addition, Elsevier will assist in communications with other journals and/or publishers where this is useful to editors.

Finally, we are working closely with other publishers and industry associations to set standards for best practices on ethical matters, errors and retractions – and are prepared to provide specialized legal review and counsel if necessary.

For further information, please visit our Ethics in Research & Publication program website **www.ethics.elsevier.com**, which aims to help young researchers understand the boundaries in research and publishing. The Ethics in Research & Publication program is the collaboration of an independent panel of experts in research and publishing ethics and Elsevier. The materials on the website have been developed to provide resources and tools to new researchers.

4. PEER-REVIEW SYSTEM

4.1. Elsevier Editorial System (EES)

Nearly all of Elsevier's journals use the **Elsevier Editorial System (EES)** for managing the submission and peer-review process. EES allows authors to submit their manuscripts, reviewers to referee and editors to manage the peer-review process online, providing a seamless flow from article submission, all the way to publication.

For reviewers, EES offers a range of benefits, including:

- Complimentary 30-day access to **Scopus** and **ScienceDirect** as a reward, and also the ability to track the status of the review
- Straightforward sign-up after review invitation
- Online support, provided throughout the peer-review process
- Simple and fast submission of the review
- A system that is available 24/7, is fast, robust and reliable, and, most importantly, easy to use
- The ability to track the status of your review, and to keep track of the deadline for submitting your review
- A knowledgeable Help Desk to resolve queries and answer questions about the system
- Electronic storage of correspondence and data for each submission and regular back-ups by Elsevier's secure servers. There is no longer a need for paper files, and the electronic system is faster and more environmentally friendly than paper systems.
- Support hub for Editors, Authors and Reviewers
- Training desk demo – tips on preparing and submitting reviews and recommendations **http://trainingdesk.elsevier.com/products/Author-and-Reviewers-Area**

A unique feature of EES: all reviewers have access to the abstracts of the articles referenced in the paper under review! This is facilitated through Elsevier's **Scopus** and **ScienceDirect** platforms.

For more help and information, you can also utilize Elsevier's **EES Interactive Tutorials** **http://support.elsevier.com**

Reviewer Guidelines on fulfilling journal requirements can be accessed from the reviewer homepage **www.elsevier.com/reviewers**

4.2. Tools to Help

Scopus

Covering the world's research literature, **Scopus** is the largest abstract and citation database of peer-reviewed literature with smart tools that allow users to track, analyze and visualize research. Its unique database contains abstracts and references from over 20,500 peer-reviewed journals from 5,000 international publishers across the scientific, technical, medical, social sciences and arts & humanities fields. Scopus also offers trade publications, book series and 5.3 million conference papers. Next to that, it contains 'Articles-in-Press' from more than 3,850 journals. These articles are available in Scopus prior to their official publication date.

Enriched with alert tools, citation analytics and advanced search features, Scopus provides the fastest way to find relevant content and identify potential research partners. Applications can be added from the Applications Gallery. Alerts can be created that are triggered by new citations. Researchers can find authors and papers ranked by citation count, evaluate journals by their degree of relevance within a given field, and make contributions to their Author Profiles to better represent themselves to other researchers and institutions.

For more information about **Scopus**, please visit:
www.info.scopus.com

4. PEER-REVIEW SYSTEM

4.2. Tools to Help (continued)

All our journal editors and reviewers using EES, Elsevier's online submission and peer-review system, can benefit from a seamless integration between Scopus, ScienceDirect and EES to assist them in the peer-review process.

Editors enjoy unlimited access to Scopus, and now reviewers can receive 30-day access to further support them during the reviewing process. The user-friendly search bar enables any reviewer or editor using EES to search Scopus to find related articles and references and track citations from authors.

Merv Fingas, head of the Emergencies Science Division at Canada's Environmental Technology Center in Ottawa, Ontario and Editor of Journal of Hazardous Materials remarks, *'Scopus is a great asset to my journal work. I use it all the time to find reviewers – in fact, I have stopped using my own database of reviewers as I find Scopus much more effective'.*

What can Scopus do for you as a Reviewer?

As a reviewer, Scopus can help you:

- Investigate a new topic
- Look for a particular article
- Keep up-to-date with the publications of a particular writer
- Request an email notification when a paper is cited
- Find out what is published in a particular field of study
- Create a citation overview for an author
- Review an author's work
- By adding applications from the Applications Gallery, you can analyze content, identify trends, view co-author networks, reach out to peers and discover Altmetrics
- During the 30-day access period, reviewers can also access Hub and ScienceDirect using their EES log-in details, outside of EES at: **www.scopus.com/reviewer**

To find out how Scopus can help you as a reviewer, please view the tutorials: **http://epsupport.elsevier.com**

Access for Reviewers

For any questions related to the EES/Scopus integration, please visit our support and self help site: **http://epsupport.elsevier.com**

Global telephone support is available 24/5:

For the Americas: +1 888 834 7287
(toll-free for US & Canadian callers)

For Asia & Pacific: +81 3 5561 5032

For Europe & Rest of the World: +353 61 709190
Fax: +353 61 709 228

Scopus

4. PEER-REVIEW SYSTEM

4.2. Tools to Help (continued)

ScienceDirect

ScienceDirect is one of the world's most advanced web delivery systems for full-text scientific, technical and medical information. It offers peer-reviewed content from over 2,500 journals, 11,000 online books, and 15,000 multimedia files. More than a collection of Elsevier content, it has time-saving tools that help master growing volumes of information. This includes a range of features, alerting services, applications and linking out to external datasets from the article page.

ScienceDirect at a glance:

- More than 11 million full-text articles from over 2,500 peer-reviewed journals
- Digitization of pre-1995 journals, with articles from as far back as 1823 (The Lancet)
- Articles available before print
- Added features include 'related articles', 'reference works' and linking to discipline specific datasets
- Authors can enrich their publications with graphs, additional data sets, images and Google maps
- Enhancements on the article page include improved readability and an interactive experience with the article content and external data
- Applications can be added from the Applications Gallery to manage and analyze information and improve workflows
- Powerful search and retrieval with full-text in PDF and HTML, with the applications **Send to Dropbox** and **eReader formats**, articles can easily be saved for further reading
- A range of customizable alerting services related to topics, new journal content and your stored search queries
- The **Top25** allows you to see which articles have been downloaded the most, either from any of the 24 subject areas and/or from any of the 2,500 journals on ScienceDirect: **http://top25.sciencedirect.com**

Reference Linking in EES

Reference linking means that by clicking on the hyperlinks, listed alongside the referenced articles, reviewers are brought to the abstracts of those articles. If it is an article from an Elsevier published journal, they can then choose to click directly through to the full text of that article (in ScienceDirect). This seamless integration will also work for articles from non-Elsevier published journals provided the reviewer (or the reviewer's institute) has a subscription.

Reviewers can use the functionality to check the authors' claims, to assess the manuscript's quality, to identify missing references etc. Easy access to references will improve the quality of the reviewer assessment, and therefore help improve article quality. Abstracts and full text can be reached through the hyperlinked references, accessible by following the 'View Linked References' link in the action menu of the manuscript, or via the Scopus search bar in EES.

ScienceDirect

4. PEER-REVIEW SYSTEM

4.2. Tools to Help (continued)

Hub

With **Hub** you can perform a single-search across ScienceDirect and Scopus, as well as full-text journal content from 18 major publishers, 246 repositories, and over 376 million scientific web pages. Sophisticated filters de-duplicate and rank results, saving time and accelerating discovery.

The Applications Gallery has an ever-growing body of applications that you may add to your account to assist you with your Hub actions. These have been built by fellow researchers and developers from around the world to improve workflows, help you analyze and manage information faster and pull in relevant external datasets.

In addition to the current publishers indexed in Hub, soon we will add:

- **1.1 million** full-text articles from **Lippincott Williams & Wilkins**
- **3.5 million** full-text journal articles from **Springer**
- **320,000** full-text articles from **RSC Publishing**

Hub is freely available to all Elsevier reviewers, authors and editors, as well as the general public, by visiting **www.hub.sciverse.com**

Scirus is another freely available web search engine from Elsevier developed especially for scientists. It enables anyone searching for scientific, technical, social science or medical information to pinpoint what they need –including peer-reviewed articles, patent information, author home pages and university web sites – quickly and easily: **www.scirus.com**

The Applications Gallery

The Applications Gallery provides the scientific community the ability to use applications that enhance the research experience inside ScienceDirect, Scopus and Hub.

ScienceDirect and Scopus enhance the way you search, analyze and manage information.

Mobile Applications

ScienceDirect and Scopus mobile applications enable you to access full-text articles and abstracts, wherever you are.

With the ScienceDirect app you can:

- Search full-text article by journal name and subject area
- Add favorites and share
- Set up and receive alerts of new content
- Save articles for offline reading

With the Scopus app you can:

- Search articles and citations
- View abstracts
- Set up and receive alerts of favorite searches and author citations
- Share article links through email.

5. SUPPORTING OUR REVIEWERS

5.1. Online Support

Developed with the input of editors, authors and reviewers, our online support site provides information and answers to questions on a variety of editorial and production topics. Features include a continuously-growing knowledgebase of information, a powerful search tool, Hot Topics and News sections, comprehensive FAQ lists and a suite of EES Interactive Tutorials. Reviewers can contact our support team from the website via a user friendly 'Contact Us' web form or via Live Chat. Telephone contact details are also provided.

Reviewers are encouraged to submit their feedback on the content and format of the online support site via the 'Leave Feedback' page or the 'Rate this paper' option available for all items on the website.

The 24/7 online support site can be accessed from the **Help** and **Contact Us** links on all EES sites or directly at **http://epsupport.elsevier.com**

Reviewers' Home – our online resource for reviewers. Advice for reviewers, information on reviewing and questions answered at **www.elsevier.com/reviewers**.

Features of the Online Support Site (http://epsupport.elsevier.com)

- Dynamic content creation and system development
- Powerful search tool
- Live Chat
- User friendly 'contact us' web form
- Comprehensive FAQs
- Solution finders
- 'Rate this article' option
- Support hub for Editors, Authors and Reviewers

5.2. Training

- Online training tutorials for reviewers
- Live and recorded training sessions of EES, Scopus and ScienceDirect on the Elsevier Training Desk **http://trainingdesk.elsevier.com**

6. LISTENING TO OUR REVIEWERS

6.1. Reviewer Feedback Programme

We regularly survey reviewers to get a better understanding of their needs and how we're doing when it comes to meeting them. You may have been asked to complete our **Reviewer Feedback Programme** online survey, which includes questions about: reviewers' overall satisfaction, their willingness to review again, the perceived reputation of the journal, interaction between the journal editor and publisher, and the quality and relevance of the article reviewed.

Findings from the Reviewer Feedback Programme help us to improve the reviewing experience. For example 90% of reviewers said they would like to be able to see the final decision and other reviewers' comments on a paper, so we added this functionality to EES. Editors are now able to switch on this functionality should they choose to do so.

What is it?

The Reviewer Feedback Programme monitors Elsevier's performance from the perspective of reviewers on Elsevier journals. We'll ask you about various aspects of EES and other aspects of reviewing via an online survey. Areas of interaction and support are measured and reported regularly. Elsevier's performance is benchmarked against that of other publishers.

Using Reviewers' Feedback

Elsevier takes reviewers' opinions seriously and the results and comments from this program are fed back into the company to help improve the reviewing process in terms of technology, sharing of information with reviewers, pre-screening of papers to make sure they are appropriate and of at least a minimum standard of English and minimising the administrative work reviewers are faced with so they can focus on the task of reviewing.

Your opinion counts

To make sure that your voice is heard, we strongly recommend you complete this survey, should you be asked to do so.

6. LISTENING TO OUR REVIEWERS

6.2. Reviewers' Home

Reviewers' Home – www.elsevier.com/reviewers – provides practical information for reviewers including resources to expedite this often time-consuming process. The site includes:

Editors' advice. One of the most useful features is the 'Advice from Editors' section, where reviewers receive specific advice direct from editors.

Top answers. The 'FAQ' section contains a large amount of detailed information to satisfy many queries. If however, you cannot find the answer to your question here, there's a link to live (online) support.

Quick reference. Many reviewers have questions about statistics. Reviewers can use the quick-reference guide presented in these pages to help them address the most common issues encountered in scientific and medical papers.

Portal. Useful links to other web resources, including Sense about Science and the Council of Science Editors can also be found on these pages.

Policy and procedures. In addition to general information about peer review, the new pages outline the Elsevier-specific peer-review policy, and how EES works.

Reviewer guidelines. Our brief guide to reviewing outlines the purpose of peer review, what to consider when being asked to review, what to look at when conducting the review and how reviewers should communicate their report back to editors.

'How to Review a Manuscript' webcasts. A Series of 3 webcasts aimed at reviewers. The first webcast takes a look at the background of peer review, the peer-review process and why it's important to review. The second webcast tackles the reviewing process and the last webcast in the series looks at the role of the reviewer, including an editor's view on what makes a good reviewer.

Newsletter: Reviewers' Update

We also produce a Reviewers' Update, a free quarterly newsletter aimed specifically at reviewers featuring news, commentary, and debate about peer review will feature. Reviewers can sign up for this e-update on the Reviewers' Home page **www.elsevier.com/reviewersupdate**

Reviewers' Update
Your support and guidance for peer review

6.3. Elsevier and Sense About Science Reviewer Survey

The goal is to generate a wider public discussion about good science and help make sense of isolated claims. For more information please see **http://editorsupdate.elsevier.com/2009/08/sense-about-science-survey-asks-scientists-about-peer-review**

7. A BRIEF GUIDE TO REVIEWING

7.1. Purpose of Peer Review

Peer review is a critical element of scholarly publication, and one of the major cornerstones of the scientific process. Peer review serves two key functions:

- Acts as a filter: ensures research is properly verified before being published.
- Improves the quality of the research: rigorous review by other experts helps to hone key points and correct inadvertent errors.

7.2. On being asked to Review

Does the article you are being asked to review truly match your expertise?

The Editor who has approached you may not know your work intimately, and may only be aware of your work in a broader context. Only accept an invitation if you are competent to review the article.

Do you have time to review the paper?

Reviewing an article can be quite time consuming. The time taken to review can vary from field to field, but an article will take, on average, 3 hours to review properly. Will you have sufficient time before the deadline stipulated in the invitation to conduct a thorough review? If you cannot conduct the review let the editor know immediately, and if possible advise the editor of alternative reviewers.

Are there any potential conflicts of interest?

A conflict of interest will not necessarily eliminate you from reviewing an article, but full disclosure to the editor will allow them to make an informed decision. For example, if you work in the same department or institute as one of the authors, worked on a paper previously with an author or have a professional or financial connection to the article. These should all be listed when responding to the editor's invitation for review.

7.3. Conducting the Review

Reviewing needs to be conducted confidentially, the article you have been asked to review should not be disclosed to a third party. If you wish to elicit opinion from colleagues or students regarding the article you should let the editor know beforehand. Most editors welcome additional comments, but whoever else is involved will likewise need to keep the review process confidential. You should not attempt to contact the author.

Be aware when you submit your review that any recommendations you make will contribute to the final decision made by the editor.

Set aside two or three hours to conduct the review. It is better to complete the evaluation in one go rather than snatching time here and there.

Depending upon the journal, you will be asked to evaluate the article on a number of criteria. Some journals provide detailed guidance others do not, but normally you would be expected to evaluate the article according to the following:

Originality

Is the article sufficiently novel and interesting to warrant publication? Does it add to the canon of knowledge? Does the article adhere to the journal's standards? Is the research question an important one? In order to determine its originality and appropriateness for the journal it might be helpful to think of the research in terms of what percentile it is in? Is it in the top 25% of papers in this field? You might wish to do a quick literature search using tools such as Scopus to see if there are any reviews of the area. If the research has been covered previously, pass on references of those works to the editor.

7. A BRIEF GUIDE TO REVIEWING

7.3. Conducting the Review (continued)

Structure

Is the article clearly laid out? Are all the key elements present: abstract, introduction, methodology, results, conclusions? Consider each element in turn:

- **Title:** Does it clearly describe the article?
- **Abstract:** Does it reflect the content of the article?

Graphical Abstracts and Highlights

You may also be requested to review a graphical abstract or highlight.

A Graphical Abstract is a single, concise, pictorial and visual summary of the main findings of the article. This could either be the concluding figure from the article or a figure that is specially designed for the purpose, which captures the content of the article for readers at a single glance.

Highlights are mandatory for some of our journals. They consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See **http://www.elsevier.com/highlights** for examples.

- **Introduction:** Does it describe what the author hoped to achieve accurately, and clearly state the problem being investigated? Normally, the introduction is one to two paragraphs long. It should summarize relevant research to provide context, and explain what findings of others, if any, are being challenged or extended. It should describe the experiment, hypothesis(es); general experimental design or method.
- **Methodology:** Does the author accurately explain how the data was collected? Is the design suitable for answering the question posed? Is there sufficient information present for you to replicate the research? Does the article identify the procedures followed? Are these ordered in a meaningful way? If the methods are new, are they explained in detail? Was the sampling appropriate? Have the equipment and materials been adequately described? Does the article make it clear what type of data was recorded; has the author been precise in describing measurements?
- **Results:** This is where the author/s should explain in words what he/she discovered in the research. It should be clearly laid out and in a logical sequence. You will need to consider if the appropriate analysis has been conducted. Are the statistics correct? If you are not comfortable with statistics advise the editor when you submit your report. Any interpretation should not be included in this section.
- **Conclusion/Discussion:** Are the claims in this section supported by the results, do they seem reasonable? Have the authors indicated how the results relate to expectations and to earlier research? Does the article support or contradict previous theories? Does the conclusion explain how the research has moved the body of scientific knowledge forward?
- **Language:** If an article is poorly written due to grammatical errors, while it may make it more difficult to understand the science, you do not need to correct the English. You may wish to bring it to the attention of the editor, however.

Finally, on balance, when considering the whole article, do the figures and tables inform the reader; are they an important part of the story? Do the figures describe the data accurately? Are they consistent, e.g. bars in charts are the same width, the scales on the axis are logical.

Previous Research

If the article builds upon previous research does it reference that work appropriately? Are there any important works that have been omitted? Are the references accurate?

7. A BRIEF GUIDE TO REVIEWING

7.3. Conducting the Review (continued)

Ethical Issues

- **Plagiarism:** If you suspect that an article is a substantial copy of another work, let the editor know, citing the previous work in as much detail as possible.
- **Fraud:** It is very difficult to detect the determined fraudster, but if you suspect the results in an article to be untrue, discuss it with the editor.
- **Other ethical concerns:** If the research is medical in nature, has confidentiality been maintained? If there has been violation of accepted norms of ethical treatment of animal or human subjects these should also be identified.

7.4. Communicating Your Report to the Editor

Once you have completed your evaluation of the article the next step is to write up your report. If it looks like you might miss your deadline, let the editor know.

Some journals may request that you complete a form checking various points, others will request an overview of your remarks. Either way, it is helpful to provide a quick summary of the article at the top of your report. It serves the dual purpose of reminding the editor of the details of the report and also reassuring the author and editor that you understood the article.

The report should contain the key elements of your review, addressing the points outlined in the preceding section. Commentary should be courteous and constructive, and should not include any personal remarks.

Providing insight into any deficiencies is important. You should explain and support your judgment so that both editors and authors are better able to understand the basis of the comments. You should indicate whether your comments are your own opinion or reflected by data.

When you make a recommendation regarding an article, it is worth considering the categories an editor will likely use for classifying the article:

a) Rejected due to poor quality, or out of scope

b) Accept without revision

c) Accept but needs revision (either major or minor)

In the latter case, clearly identify what revision is required, and indicate to the editor whether or not you would be happy to review the revised article.