How to Review a Paper

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Elsevier Journals Publishing Director Eastern Europe

Moscow, September 24-26th 2013

Opening Question

- **Why is peer review a part of the scholarly publishing process?**

Objectives

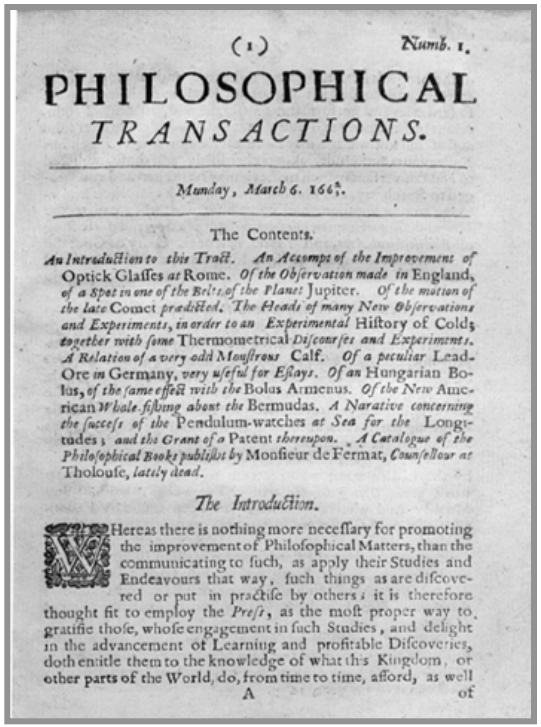
- What is the history of peer review and what role does it serve?
- Why should I consider being a reviewer?
- How do I carry out a proper and thorough review?

Publishing Connect
Partnering with the Research Community

What is the history of peer review and what role does it serve?

Background on Peer Review

- Cornerstone of the whole scholarly publication system
- Maintains integrity in the advancement of science
- Well-established process over 300 years old



(1) Numb. 1.

PHILOSOPHICAL
TRANSACTIONS.

Monday, March 6. 166⅞.

The Contents.

An Introduction to this Tract. An Accompt of the Improvement of Optick Glasses *at* Rome. *Of the Observation made in* England, *of a Spot in one of the Belts of the Planet* Jupiter. *Of the motion of the late* Comet *predicted. The Heads of many New Observations and Experiments, in order to an Experimental* History of Cold; *together with some* Thermometrical *Discourses and Experiments. A Relation of a very odd Monstrous* Calf. *Of a peculiar* Lead-Ore *in* Germany, *very useful for Essays. Of an* Hungarian Bolus, *of the same effect with the* Bolus Armenus. *Of the New* American *Whale-fishing about the* Bermudas. *A Narative concerning the success of the* Pendulum-watches *at Sea for the* Longitudes; *and the Grant of a* Patent *thereupon. A Catalogue of the Philosophical Books published by* Monsieur de Fermat, *Counsellour at* Tholouse, *lately dead.*

The Introduction.

WHereas there is nothing more necessary for promoting the improvement of Philosophical Matters, than the communicating to such, as apply their Studies and Endeavours that way, such things as are discovered or put in practise by others; it is therefore thought fit to employ the *Press*, as the most proper way to gratifie those, whose engagement in such Studies, and delight in the advancement of Learning and profitable Discoveries, doth entitle them to the knowledge of what this Kingdom, or other parts of the World, do, from time to time, afford, as well

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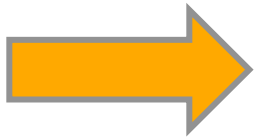


What is Peer Review?

Peer Review has two key functions:

- Acts as a filter by ensuring only good research is published. Helps to determine validity, significance and originality
- Improves the quality of the research submitted for publication by giving reviewers the opportunity to suggest improvements

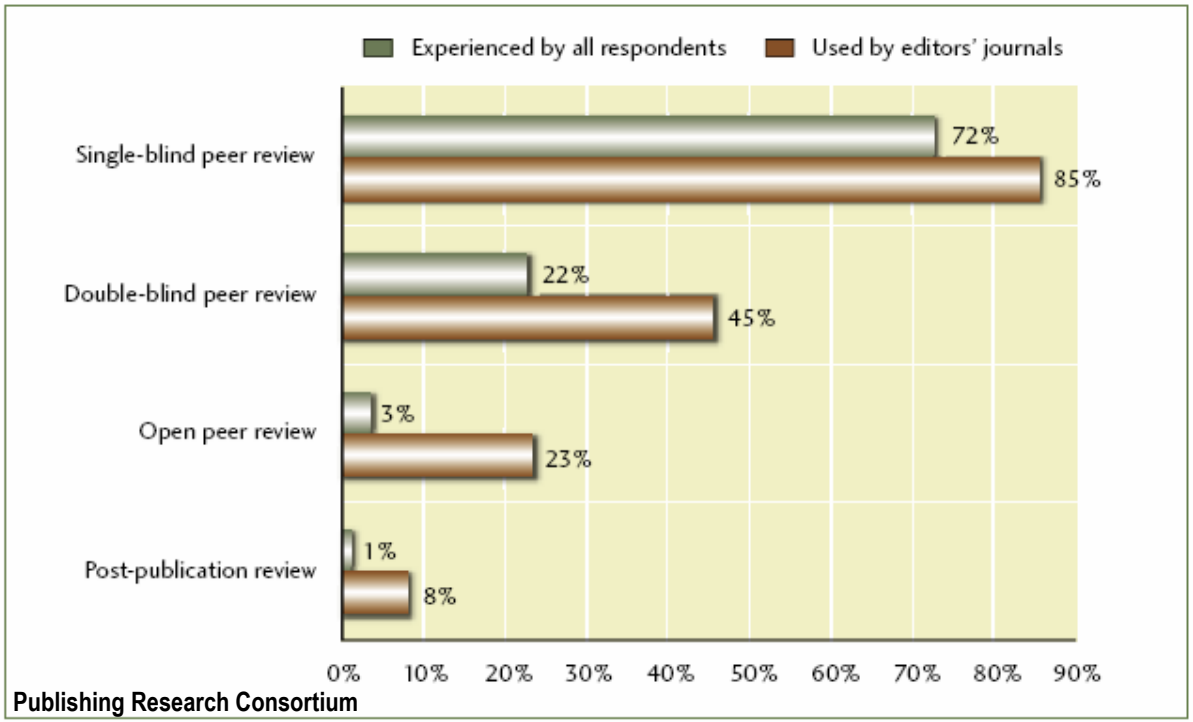
Different Types of Peer Review

1. "Single blind" peer review
2. "Double blind" peer review
3. Open peer review

Exp

1.

2.



Publishing Research Consortium

POST-PUBLICATION

PRE-PRINT

arbonization of a novel synthetic resorcinol–formaldehyde (RF) polymer without any addi-
de materials for aqueous electric double-layer capacitors (EDLCs). This novel RF polymer-
a with large carbonization yield (~50%), and excellent specific dc capacitance over 200 F/g.
resorcinol to curing agent) on the specific surface area, pore size distribution, nanostructure
, respectively. The results showed that a higher R/CA ratio yielded carbon with higher spe-
and broader pore size distribution. The highest specific surface area of 825 m^2/g and specific
occur at R/CA ratio of 50. The electrochemical behaviors were characterized by means of
tammetry and impedance spectroscopy. The correlation between electrochemical properties
the excellent capacitance properties, low cost and simple process, this RF polymer-derived
DLCs applications.

such as high specific surface area and large pore volume
[5,6]. Almost any carbonaceous material can be converted

s:

e reviewer is "5 star rating"

." 3.5 star rating

arXiv.o

Publishing Connect
Partnering with the Research Community

Publishing Connect
Partnering with the Research Community

Who conducts reviews and why do they do it?

Who Conducts Reviews?

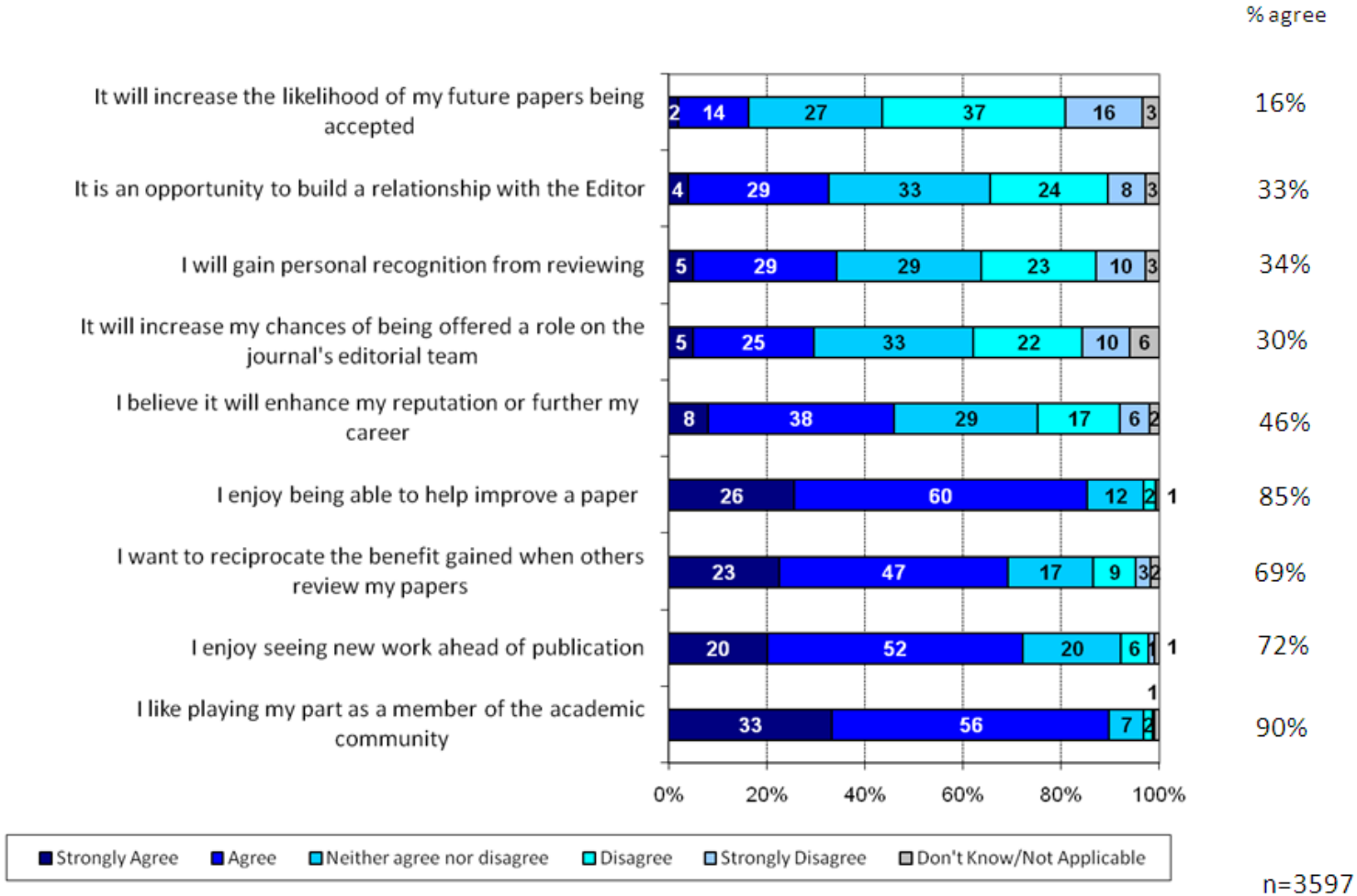
- Scientific experts in specific fields and topics
- Young, old, and mid-career
- Average number of completed reviews is 8 per year*

* "Peer Review in Scholarly Journals – perspective on the scholarly community: an international study". M Ware and M Monkman. Publishing Research Consortium

Why Do Reviewers Review?

- Fulfill an academic ‘duty’
- Keep up-to-date with latest developments
- Helps with their own research
- Build associations with prestigious journals and editors
- Remain aware of new research
- Develop one’s career
- Contribute to the advancement of science

Reasons for Reviewing



(Peer Review Survey 2009)

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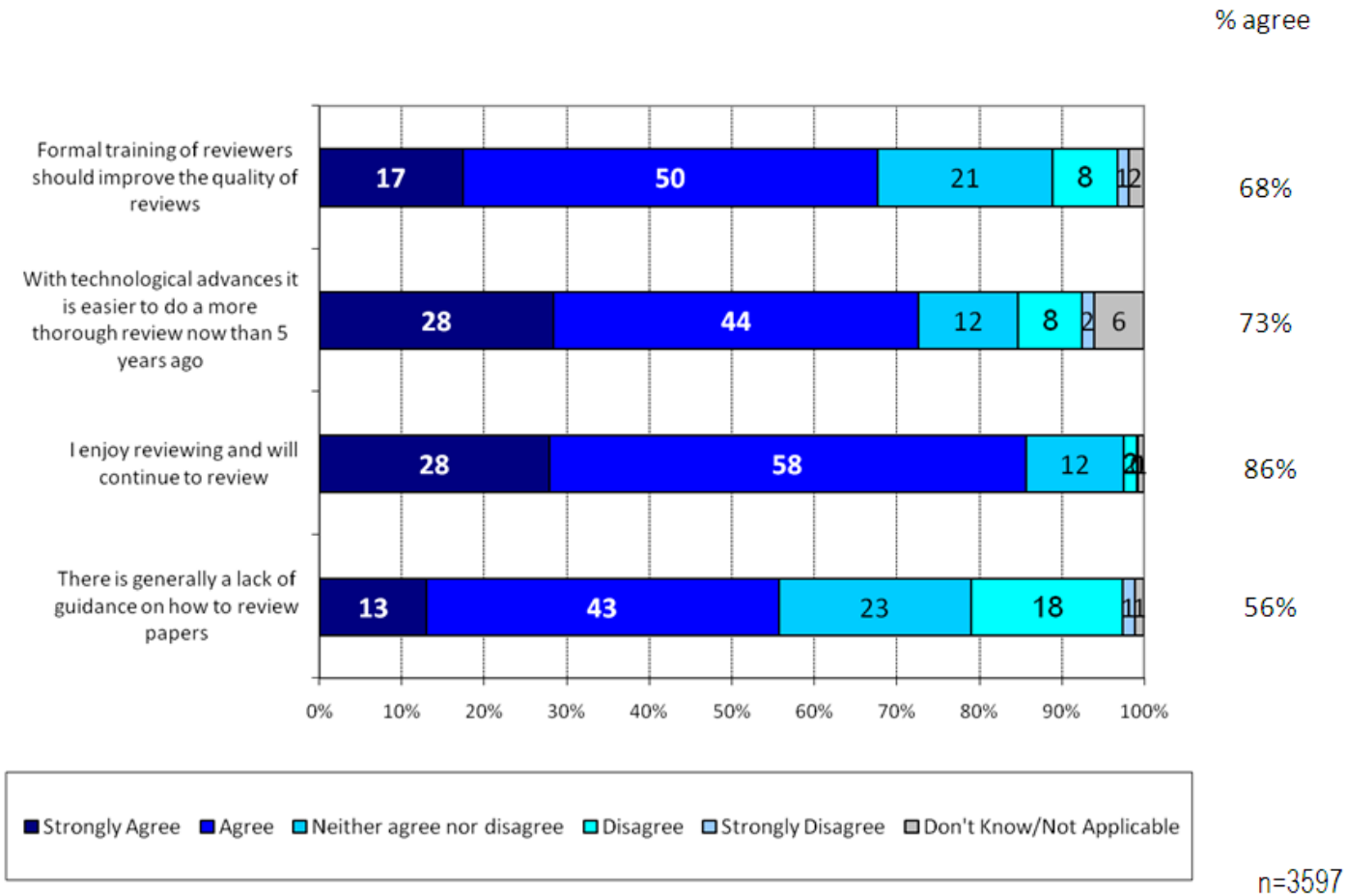
Reviewing Generally



(Peer Review Survey 2009)

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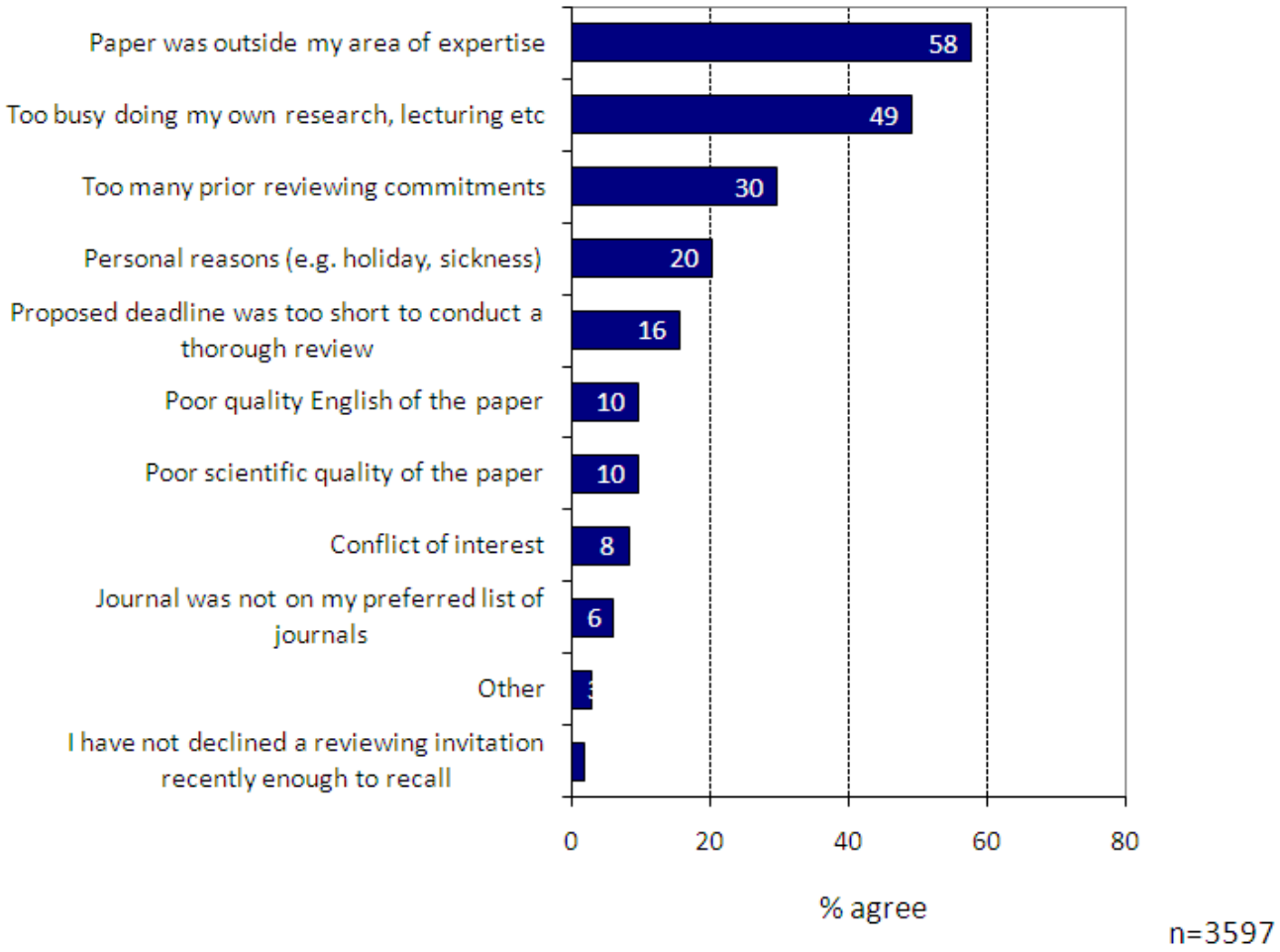
Reasons for Declining to Review



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(Peer Review Survey 2009)

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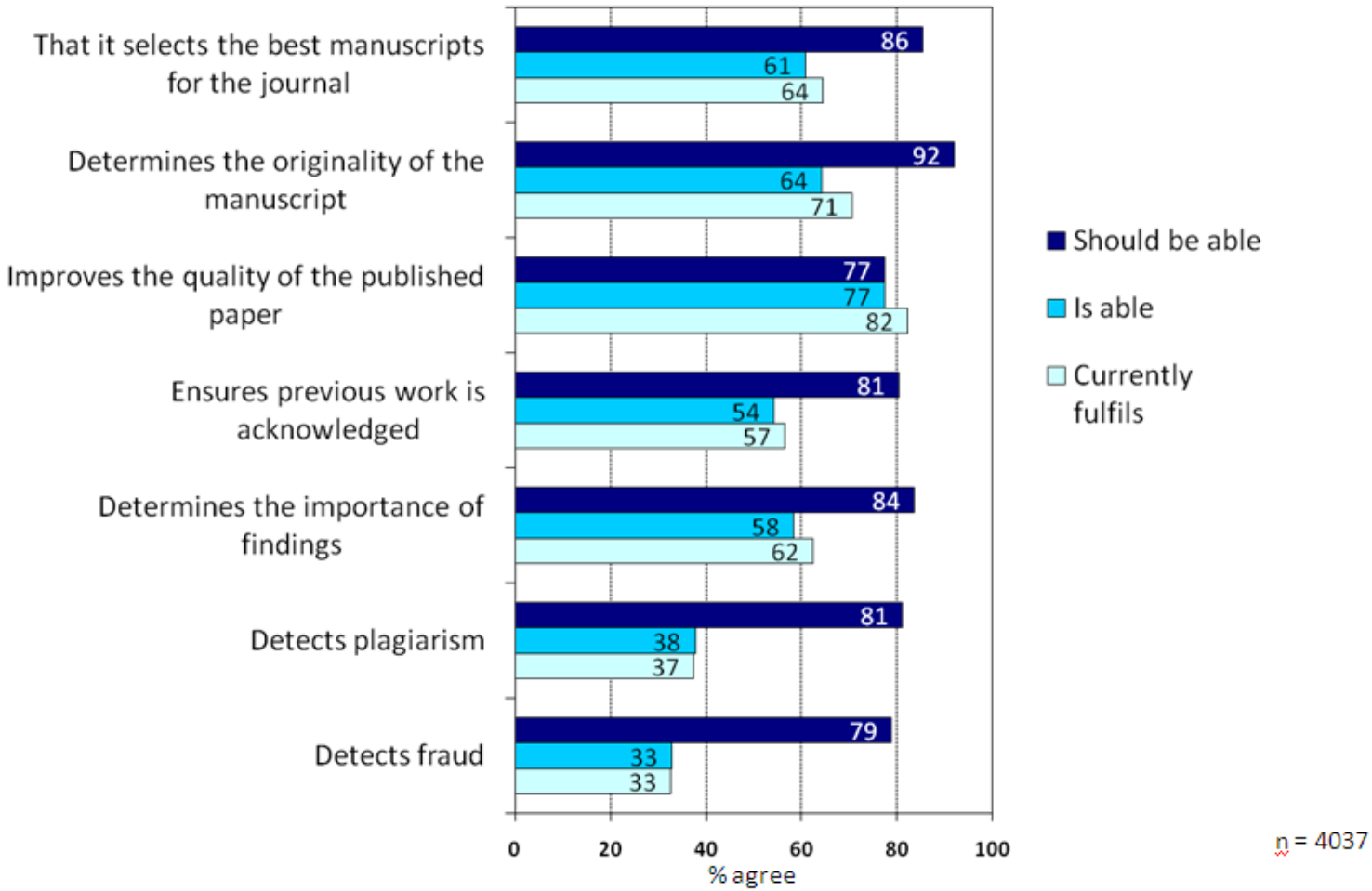
Purpose of Peer Review



(Peer Review Survey 2009)

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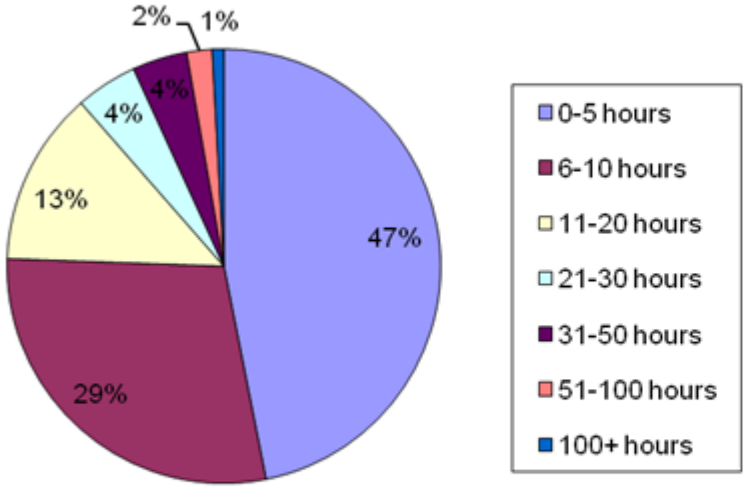
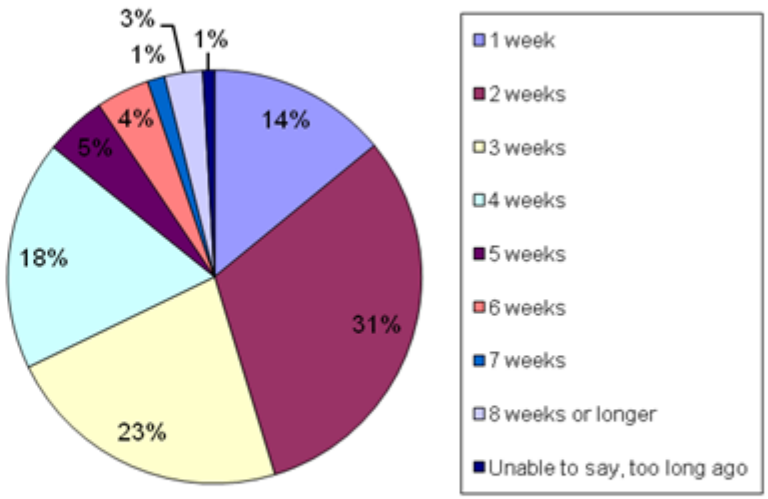
Time taken to review

No. of hours spent on last review



Time between acceptance of invitation to review and delivery of report



Modal time spent = 4 hours

Median time spent = 6 hours

86% returned their last review within one month

(Peer Review Survey 2009)

Publishing Connect
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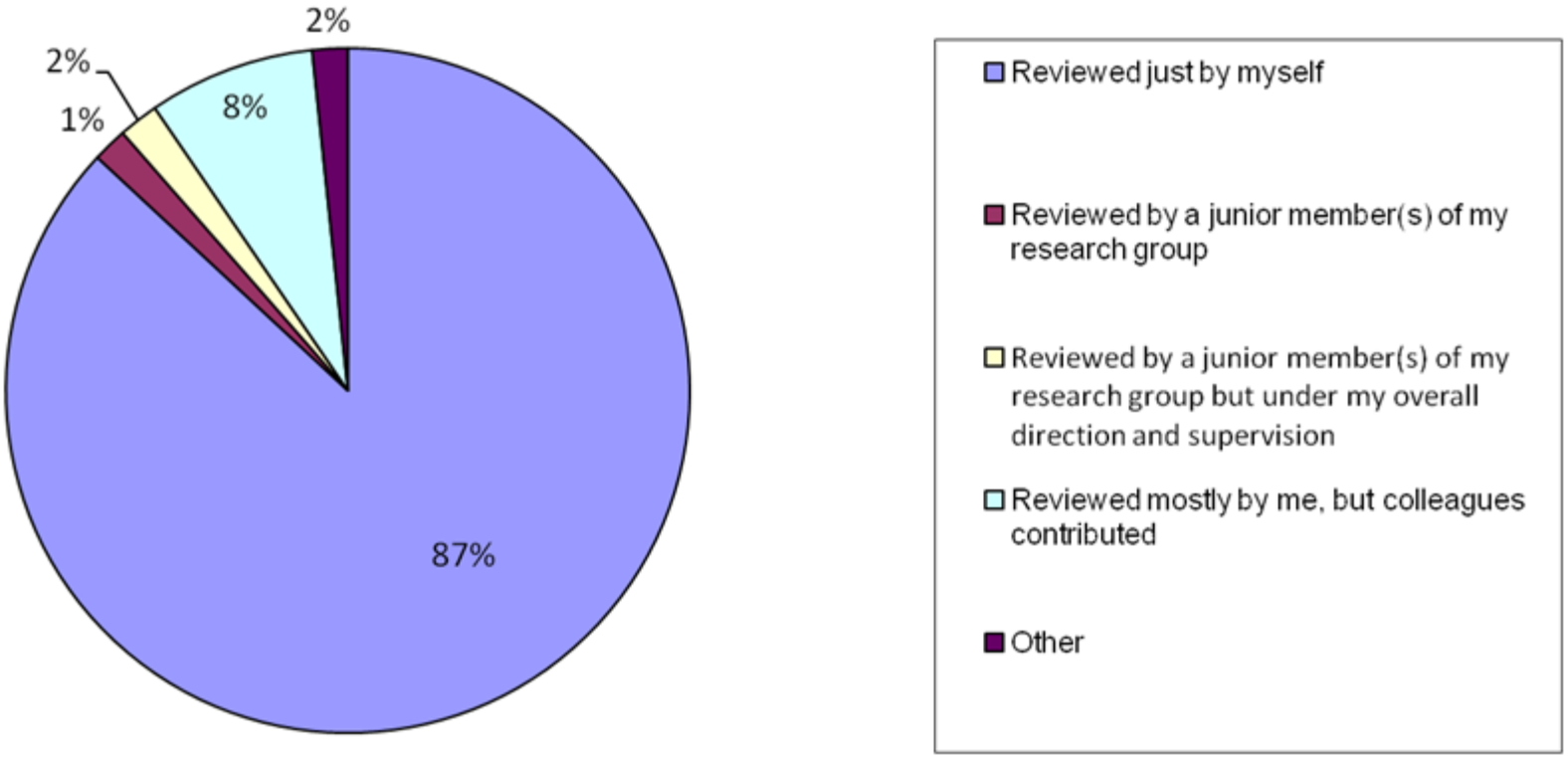
Collaboration during Review



(Peer Review Survey 2009)

Sample invitation to review

Dear <**Reviewer name**>

Re: <Name of journal Paper>

I would appreciate your critical review of the enclosed manuscript that has been submitted for publication in <**journal name**>. <**journal name**> wishes to be a natural choice for the publication of original papers of high quality in a broad range of <**journal subject area**> research. Consequently in reviewing the manuscript do not hesitate to reject it if it is scientifically flawed; provides no new insights; merely sets out observations with no analysis or is of insufficient priority to warrant publication.

If you recommend revision, please make your comments as constructive as possible to help the authors improve their paper. Do not attempt to re-write the paper. It is the responsibility of the authors to produce a clear manuscript in correct English. **Extensive editing and/or rephrasing is not your task.** It is however helpful if you can mark typographical, spelling and grammatical errors on the manuscript, but this is not essential. Authors are allowed to submit only one revision and therefore your comments should be sufficiently detailed for the authors to make all necessary changes that can eventually lead to acceptance. If a revised manuscript is sent back to you the only response required will be a simple yes or no to the question, 'Is the paper now suitable for publication'?

If the modifications you request do not necessitate the return of the manuscript please destroy it since it has been submitted in confidence. Please return the checklist and your detailed comments to me within **14 days**. If you are unable to complete the review within this time, please return the manuscript to me immediately.

Thank you for your help.

Yours sincerely

Invitation to review and mission of the journal

Specific reviewing instructions

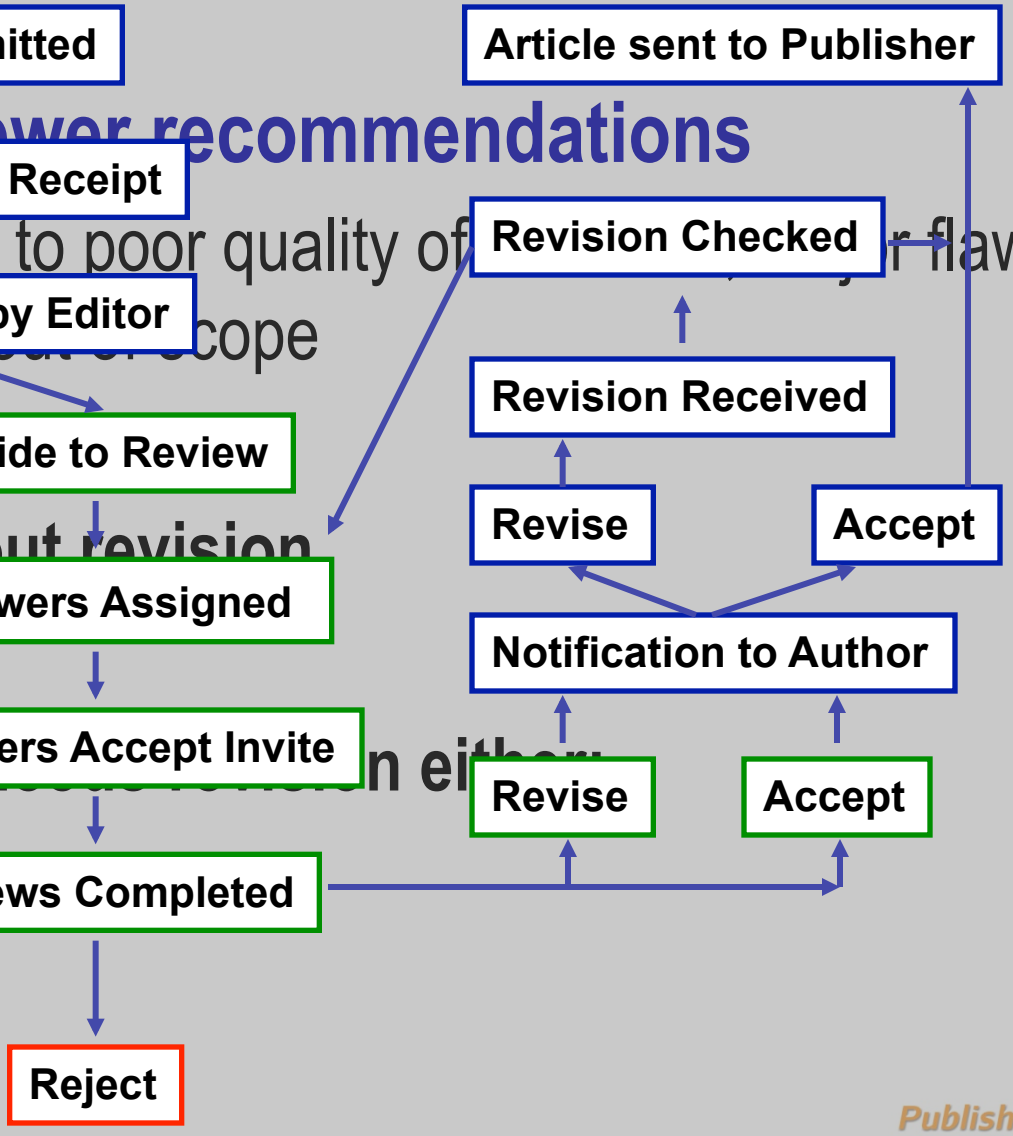
Stipulated deadline

Publishing Connect
Partnering with the Research Community

How do I carry out a proper and thorough review?

Overview of Peer Review Process

- Possible reviewer recommendations
  - Rejected due to poor quality of [illegible] flaws in the paper, or out of scope
  - Accept without revision
  - Accept, but needs revision either:
    - Minor
    - Major



Conducting the Review – General Points

In your judgement where does this paper lie in relation to cognate papers in primary <**journal subject area**>?

Top 25%	☐
Top 50%	☐
Bottom 50%	☐
Bottom 25%	☐

If in the top 25% should the paper be 'fast tracked' for publication? YES | NO

If in the bottom 25% give brief reason why it should be published in <**journal name**>

Recommendation (This response form should be accompanied by detailed comments on the enclosed sheet.)

- Publish as submitted ☐
- Publish with major revision ☐
- Publish with minor revision ☐
- Reject because .....

Signature ..... Date .....

Detailed comments to be included

Final Recommendation

Conducting the Review - Originality

- Sufficiently novel and interesting to warrant publication?
- Adds to the canon of knowledge?
- Answers an important research question?
- Satisfies the journal's standards?
- Falls in the top 25% of papers in this field?
- A literature scan of review articles can help the reviewer determine originality

Conducting the Review - Structure

Key sections are included and are laid out clearly

Title
Abstract
Introduction
Methodology
Results
Discussion/ Conclusion
References

Title

Abstract

- Does it reflect what was done and what the major findings

Introduction

Methodology

Results

- **Discussion/ Conclusion**
- Are the claims in this section supported by the results, do they seem reasonable?

References/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?

- Does the article make it clear what type of data was recorded, has the author been precise in describing measurements?

Conducting the Review – Tables & Figures

- Relevant and important
- Consistency
- Color
- Caption length and appropriateness
- Figures describe the data accurately

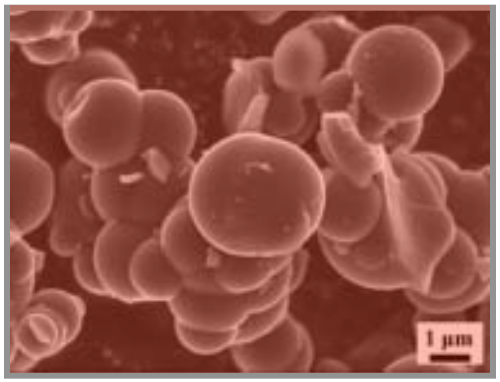
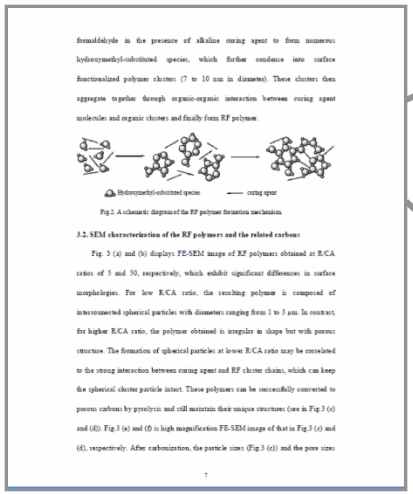


Fig.3. FE-SEM images of RFP-50 at 1,0000×

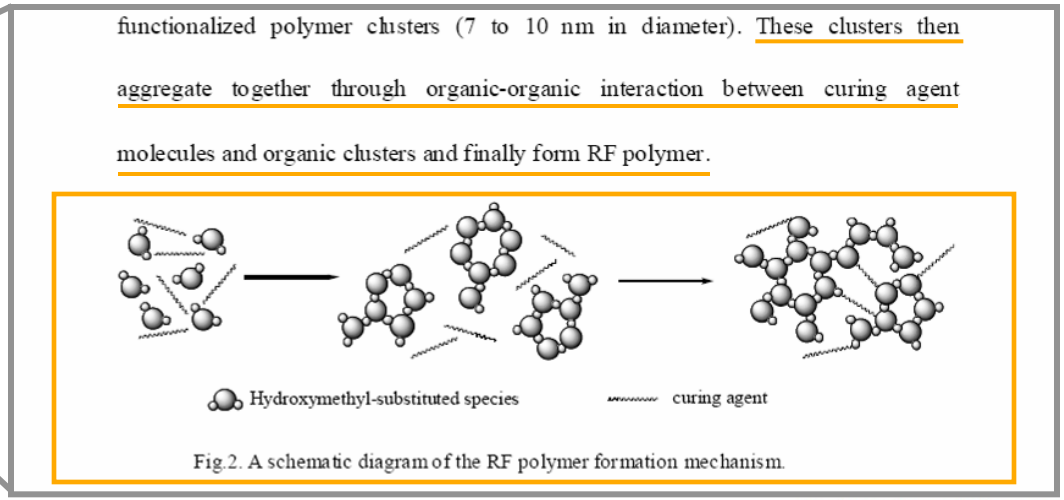

formaldehyde in the presence of alkaline curing agent to form numerous hydroxymethyl-substituted species, which further condense into surface functionalized polymer clusters (7 to 10 nm in diameter). These clusters then aggregate together through organic-organic interaction between curing agent molecules and organic clusters and finally form RF polymer.

Hydroxymethyl-substituted species — curing agent

Fig.2. A schematic diagram of the RF polymer formation mechanism.

3.2. SEM characterization of the RF polymers and the related carbons

Fig. 3 (a) and (b) displays FE-SEM image of RF polymers obtained at R/CA ratios of 5 and 50, respectively, which exhibit significant differences in surface morphologies. For low R/CA ratio, the resulting polymer is composed of interconnected spherical particles with diameters ranging from 1 to 3 μm. In contrast, for higher R/CA ratio, the polymer obtained is irregular in shape but with porous structure. The formation of spherical particles at lower R/CA ratio may be correlated to the strong interaction between curing agent and RF cluster chains, which can keep the spherical cluster particle intact. These polymers can be successfully converted to porous carbons by pyrolysis and still maintain their unique structures (see in Fig.3 (c) and (d)). Fig.3 (a) and (f) is high magnification FE-SEM image of that in Fig.3 (c) and (d), respectively. After carbonization, the particle sizes (Fig.3 (c)) and the pore sizes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Hydroxymethyl-substituted species — curing agent

Fig.2. A schematic diagram of the RF polymer formation mechanism.

Conducting the Review – Ethical Issues

- Plagiarism
- Fraud
- Medical ethical
- concerns

Profile: Hwang Woo-suk

South Korea's Hwang Woo-suk was feted as a national hero when, in 2004, his research team said it had successfully cloned a human embryo and produced stem cells from it, a technique that could one day provide cures for a range of diseases.

But allegations he used unacceptable practices to acquire eggs from human donors, then faked two landmark pieces of research into cloning human stem cells, have left his reputation in tatters.

Dr Hwang captured the public's imagination

BBC News

Review Process (i)

Regular articles are initially reviewed by at least 2 reviewers

When invited, the Reviewer receives the Abstract of the manuscript

The Editor generally requests that the article be reviewed within 2-4 weeks
Limited extensions sometimes acceptable

Articles are revised until acceptance or rejection (in general, until the Editor decides that the Reviewers' comments have been addressed satisfactorily by the Author)

The Reviewers' reports provide advice for Editors reach a decision
The Reviewer is the one who recommends; the Editor decides!

Review Process (ii)

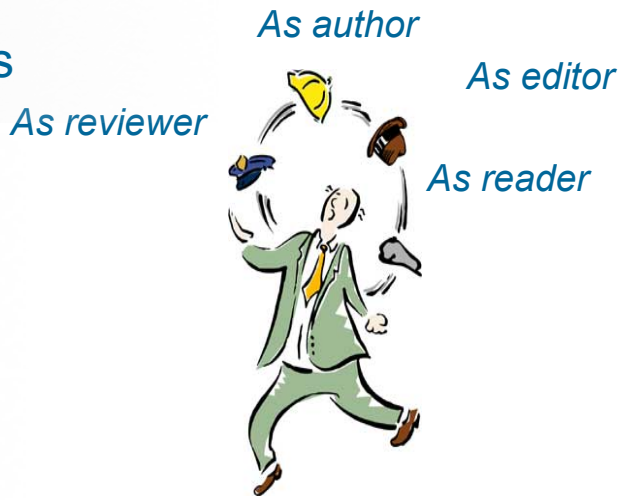
If a report has not been received after 4 weeks, the Editorial office contacts the Reviewer

If there is a notable disagreement between the reports of the reviewers, a third Reviewer may be consulted

The anonymity of the reviewers is strictly maintained unless a Reviewer asks to have his/her identity made known to the authors

Review Process (iii)

- Reviewers must *not* communicate directly with authors
- All manuscripts and supplementary material must be treated confidentially by Editors and Reviewers
- The manuscript cannot be distributed outside a small group of people without consultation with an Editor
- The aim is to have a “first decision” to the Authors within 4-6 weeks after submission of the manuscript
- Meeting those objectives requires a significant effort on the part of the Editorial staff, Editor and Reviewers
- If Reviewers treat authors as they themselves would like to be treated as authors, then these objectives can be met



As a researcher, you wear many hats!

Role of the Reviewer – General impression and Abstract

General impression

- Before commenting on parts of the manuscript, add a short summary of the article
  - Give a general comprehension of the manuscript, its importance, language/style/grammar, and your general level of enthusiasm
- Avoid personal remarks or excessive, or pointlessly clever and sarcastic comments:
  - Reviewer comments are not meant to hurt the authors
  - If you must be critical, add such remarks to “Comments to Editor”

Abstract

- Is it a real summary of the paper?
  - Including key results?
- Not too long?
  - Long abstracts can be cut off by Abstracting&Indexation Databases such as PubMed

Role of Reviewer: Introduction

Is it effective, clear, and well organized?

Does it really introduce and put into perspective what follows?

- But the Introduction should not be a “history lesson”

Suggest changes in organization, and point authors to appropriate citations

- Don’t just write “The authors have done a poor job.”

Role of Reviewer: Methods

Can an interested, knowledgeable colleague reproduce the experiments and get “the same” outcomes?

Did the authors include proper references to previously published methodology?

Is the description of new methodology accurate?

- Source of solvents or reagents used can be very critical

Could or should the authors have included Supplementary material?

Role of the Reviewer – Results and Discussion (i)

Suggest improvements in the data shown, in presentation, and in style

Comment on general logic, and on justification of interpretations and conclusions

Comment on number of figures, tables, schemes, their need and their quality

Write concisely and precisely which changes you recommend:

- Distinguish between “needs to change” and “nice to change”
- Keep in mind that the author must be able to respond to your comments, whether it’s implementation or a rebuttal

Role of the Reviewer – Results and Discussion (ii)

List, separately under one header, suggested changes in style, grammar, and other changes you are suggesting

Nowadays such comments can also be made in PDF

Require or suggest other experiments or analyses

Make clear why there is a need for such, but defer to the Editor if you are not sure whether new experiments are essential, or would be more appropriate for future studies

Before you propose additional work, first ask yourself whether the manuscript is worth publishing at all!

Role of Reviewer: Conclusions

Comment on importance, validity and generality of conclusions

Request “toning down” unjustified claims and generalizations

Request removal of redundancies and summaries

- The Abstract, not the Conclusion summarizes the study

Role of Reviewer: References, Tables, Figures

Check, if possible, accuracy of citations, and also comment on number and appropriateness:

- Too many self-citations?

Comment on any footnotes (to text or tables) and whether these should have been included in the body of the text

Comment on need for figures/tables/graphs, their quality, readability

Comment on need for color in figures

Assess legends, captions, headings, and axis labels

Check for consistency of presentation:

- language, font, size, etc

Sending Your Report to the Editor

- Anticipate the deadline
- Summarize the article at the top of your report
- The report should be comprehensive
- Explain and support your judgments
- Make a distinction between your own opinions and your comments based on data
- Be courteous and constructive

Editors' View: What makes a good reviewer?

A good Reviewer

'Provides a thorough and comprehensive report'

'Provides the report on time!'

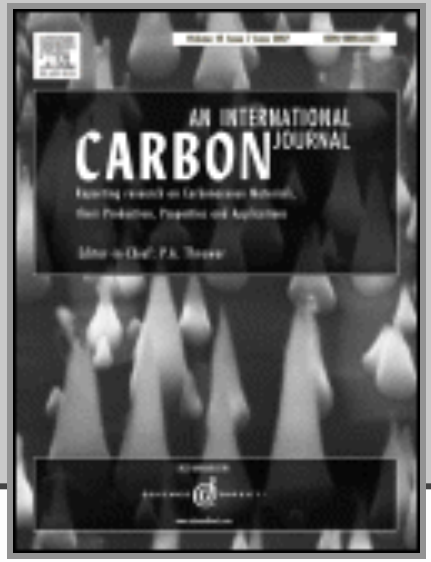
'Provides well-founded comments for author which the Editor can cut-and-paste into the report for the author.'

'Provides constructive criticism.'

'Demonstrates objectivity.'

'Provides a clear recommendation for the Editor which is in agreement with the content of the reviewer report.'

Sample Paper



View Reviewer and Editor Comments for
CARBON-D-06-00903R1
"Structure and electrochemical properties of resorcinol-formaldehyde polymer-based carbon for electric double-layer capacitors"

Click the recommendation term to view the comments for the submission.

View Manuscript Rating Card

	Revision 1	Original Submission
S. Jacobs (Reviewer 1)	Acceptable in present form	Major revision, further review required
J. Ritman (Reviewer 2)	(None)	Accept with minor rev. ,no further review required
L. Smith (Editor in Chief)	Accept	Revise
Author Decision Letter	Accept	Revise

Close

Reviewer's Submission

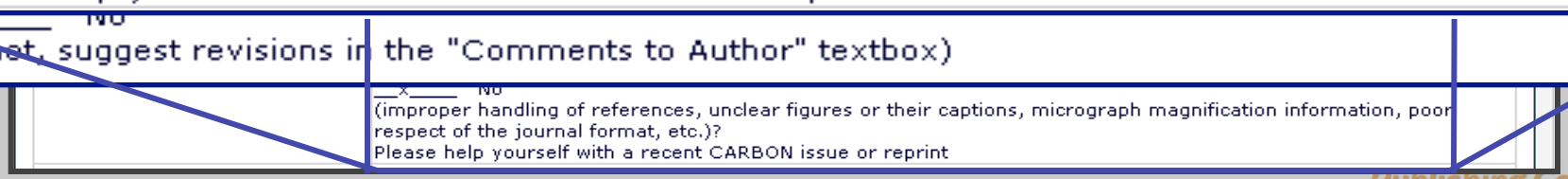
4. Are References appropriate and free from obvious omissions?
__x_____ Yes
_______ No
(If not, indicate revisions/corrections in the "Comments to Author" textbox)

5. Does the paper make effective use of journal space?___x___ Yes
_______ No
(If not, use the "Comments to Author" textbox to suggest changes in clarity, efficiency of presentation, number
figures and tables, etc.)

6. Does the language need substantial improvement?
_______ Yes
__x_____ No
(If yes, indicate as many revisions/corrections as you can in the "Comments to Author" textbox)

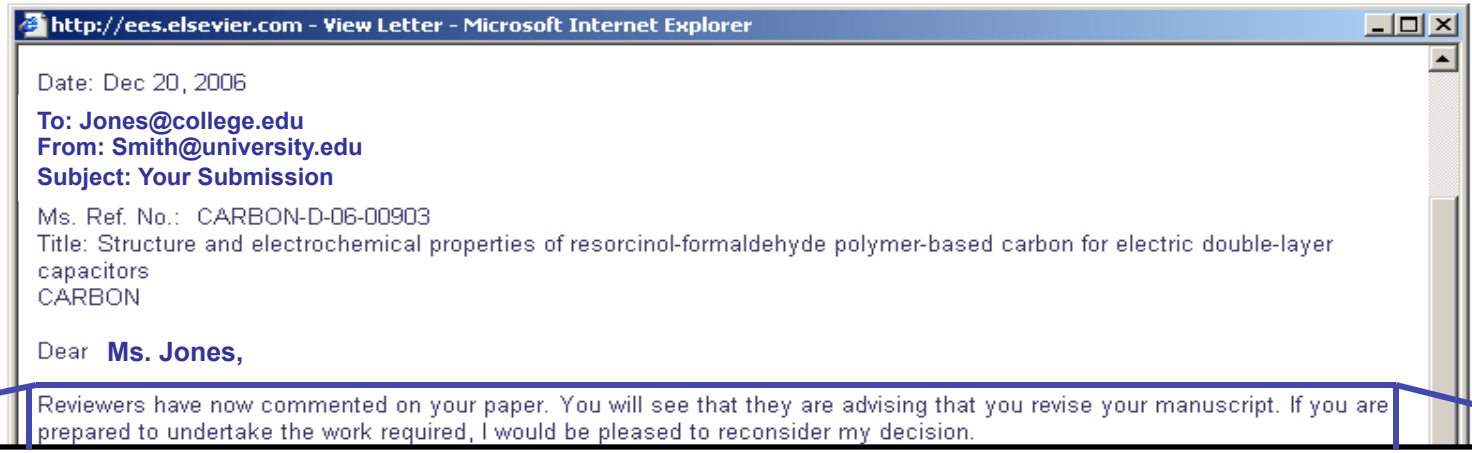
7. Are there errors in factual information, logic or mathematics?
_______ Yes
___x___ No
(If yes, use the "Comments to Author" textbox to indicate the points that are objectionable or require attention)

8. Are there any mechanical deficiencies
_______ Yes
__x_____ No
(improper handling of references, unclear figures or their captions, micrograph magnification information, poor
respect of the journal format, etc.)?
Please help yourself with a recent CARBON issue or reprint
_____ No
(If not, suggest revisions in the "Comments to Author" textbox)



Editor's Letter to Authors

View Reviewer and Editor Comments for
CARBON-D-06-00903R1
"Structure and electrochemical properties of resorcinol-formaldehyde polymer-based carbon for electric double-layer capacitors"



Reviewers have now commented on your paper. You will see that they are advising that you revise your manuscript. If you are prepared to undertake the work required, I would be pleased to reconsider my decision.

For your guidance, reviewers' comments are attached and should be carefully followed and answered.

If you decide to revise the work, please submit a list of changes or a rebuttal against each point which is being raised when you submit the revised manuscript.

To submit a revision, please go to http://ees.elsevier.com/carbon/ and login as an Author.
Your username is: ******
Your password is: ******

On your Main Menu page is a folder entitled "Submissions Needing Revision". You will find your submission record there.

Author's Revisions to Detailed Comments

Response to Reviews
CARBON-D-06-00903
Title: Structure and electrochemical properties of resorcinol-formaldehyde polymer-based carbon for electric double-layer capacitors

Dear Dr. Smith and Reviewers,

Thank you very much for your consideration. We have revised the manuscript according to the comments of the reviewers. The replies are listed as follows:

Reviewer #1:

1) The curing agent must be identified before this work can be accepted for publication in Carbon. It is unacceptable that the authors left this information out of the manuscript. How do they expect other researchers to reproduce this work without this information? This should not be allowed by the Editor of Carbon.

Answer 1:

In the manuscript, we have added the name of this curing agent with blue color (please see page 3, paragraph 2, line 2).

2) Clarify in the caption of Table 2 that the capacitance values in F/g are indeed those for a single electrode as explained at the bottom of page 11.

Answer 2:

According to the reviewer's comments, we have clarified in the caption of Table 2 that the capacitance values are for single electrode.

Final Article

ELSEVIER

Available online at www.sciencedirect.com
ScienceDirect
Carbon 45 (2007) 1439–1445

CARBON
www.elsevier.com/locate/carbon

Structure and electrochemical properties of resorcinol–formaldehyde polymer-based carbon for electric double-layer capacitors

A. Jones, Y. Lee, R. Lopez

Southern University, Main Road, UK

Received 18 September 2006; accepted 14 March 2007
Available online 20 March 2007

Abstract

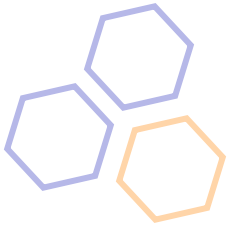
A nano-porous carbon was prepared by carbonization of a novel synthetic resorcinol–formaldehyde (RF) polymer without any additional activation process, and used as electrode materials for aqueous electric double-layer capacitors (EDLCs). This novel RF polymer-based carbon shows high specific surface area with large carbonization yield (~50%), and excellent specific dc capacitance over 200 F/g. The effect of R/CA ratio (i.e. molar ratio of resorcinol to curing agent) on the specific surface area, pore size distribution, nanostructure and electrochemical capacitance was studied, respectively. The results showed that a higher R/CA ratio yielded carbon with higher specific surface area, larger specific capacitance, and broader pore size distribution. The highest specific surface area of 825 m^2/g and specific capacitance exceeding 200 F/g were found to occur at R/CA ratio of 50. The electrochemical behaviors were characterized by means of galvanostatic charging/discharging, cycle voltammetry and impedance spectroscopy. The correlation between electrochemical properties and pore structure was investigated. Due to the excellent capacitance properties, low cost and simple process, this RF polymer-derived carbon would be a promising material for EDLCs applications.

1. Introduction

Electric double-layer capacitors (EDLCs) are unique such as high specific surface area and large pore volume [5,6]. Almost any carbonaceous material can be converted into porous carbon, including natural precursors (e.g.

Summary

- **What is the history of peer review and what role does it serve?**
  - Peer review is the cornerstone of the scholarly publication process
  - Filters out good research and improves it
- **Why should I consider being a reviewer?**
  - Reviewing can be a career building activity that also keeps one in touch with the latest research in the field
- **How do I carry out a proper and thorough review?**
  - Analyze the article for its originality, structure, and ethical sufficiency
  - Provide detailed, constructive comments and communicate clearly with the Editor



Thank you.

Questions?