

# **Peer review of Agricultural journals**

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Chair at Committee on Publication Ethics, KCSE**

# Contents

- Introduction
  - ✓ Top publisher/Institutional rankings in Agricultural sciences
- Peer review system
- How to maintain a GOOD review system?
- How to perform a peer-review?
- Conclusion: Peer Review Principles (COPE)

# Top publisher list

Scijournal.org (2017)

1

Publisher	No. Journals
Elsevier	2571



[Nederland]

# Top publisher list

Scijournal.org (2017)

2

Publisher	No. Journals
Springer-Verlag	2209



[Germany]

# Top publisher list

Scijournal.org (2017)

3

Publisher	No. Journals
Taylor and Francis	1803



[United Kingdom]

# Top publisher list

Scijournal.org (2017)

4

Publisher	No. Journals
John Wiley and Sons	1604



[USA]

# Top publisher list

Scijournal.org (2017)

5

Publisher	No. Journals
Sage Publications	742



[USA]

# Top publisher list

Scijournal.org (2017)

6

Publisher	No. Journals
SciELO	684



**[Brazil]**



# Top publisher list

Scijournal.org (2017)

7

Publisher	No. Journals
Walter de Gruyter	683



DE GRUYTER



[Germany]

# Top publisher list

Scijournal.org (2017)

8

Publisher	No. Journals
Redalyc	447



[Mexico]

# Top publisher list

Scijournal.org (2017)

9

Publisher	No. Journals
RMIT publishing	415



[Australia]

# Top publisher list

Scijournal.org (2017)

10

Publisher	No. Journals
Inderscience Publishers	391



[Switzerland]

# Top publisher list

Scijournal.org (2017)

11

Publisher	No. Journals
Hindawi Publishing Corporation	366



Hindawi



[Egypt]

# Top subjects list

<u>Subject</u>	<u>No Journals</u>
MEDICAL SCIENCES	6186
BIOLOGY	2652
BUSINESS AND ECONOMICS	2618
ENGINEERING	1993
COMPUTER SCIENCE	1780
EDUCATION	1310
SOCIAL SCIENCES	1276
LITERATURE	1254
HEALTH AND SAFETY	1110
HISTORY	1083
HUMANITIES	1054
LAW	974
MATHEMATICS	803
PSYCHOLOGY	793
CHEMISTRY	785
ENVIRONMENTAL STUDIES	773
PHYSICS	748
POLITICAL SCIENCE	721
AGRICULTURE	676
EARTH SCIENCES	594
ART	557

Scijournal.org (2017)

# Agriculture and Biological Sciences

Number of journals

<b>Agriculture and Biological Sciences</b>	1903 (all subject)
--	--------------------

<b>Subject category</b>	<b>Number of journals</b>
Ecology, Evolution, Behavior and Systematics	537
Plant Science	398
Animal Science and Zoology	356
Agronomy and Crop Science	304
Food Science	255
Aquatic Science	198
Insect Science	130
Forestry	129
Soil Science	105
Horticulture	71
Miscellaneous	203

Scijournal.org (2017)

# Institution Rankings in Agricultural Sciences

Rank	Institution	Papers	Citations	Citations Per Paper
1	Tufts University, USA	392	7,089	18.08
2	Institute of Food Research, UK	471	6,912	14.68
3	University of Helsinki, Finland	779	9,905	12.72
4	Cornell University, USA	1,557	17,096	10.98
5	University of Wisconsin, USA	1,428	14,326	10.03
6	University of California, Davis, USA	1,954	19,454	9.96
7	Royal Veterinary and Agricultural University, Denmark	1,013	9,842	9.72
8	University of Reading, UK	846	8,211	9.71
9	French National Institute for Agricultural Research (INRA), France	3,230	31,215	9.66
10	Oregon State University, USA	725	6,985	9.63
11	Danish Institute of Agricultural Sciences, Denmark	603	5,794	9.61
12	Wageningen University, The Netherlands	2,443	23,351	9.56
13	University College Cork, Ireland	794	7,580	9.55
14	Rutgers State University, USA	585	5,440	9.3
15	University of Massachusetts, USA	634	5,740	9.05
16	Penn State University, USA	984	8,727	8.87
17	University of Nebraska, USA	1,081	9,576	8.86
18	Michigan State University, USA	952	8,397	8.82
19	University of Illinois, USA	1,287	11,328	8.8
20	U.S. Food and Drug Administration, USA	818	7,155	8.75

BASED ON CITATIONS PER PAPER AMONG INSTITUTIONS WITH 5,000 OR MORE CITATIONS



# Institutional Rankings in **Environment and Ecology**

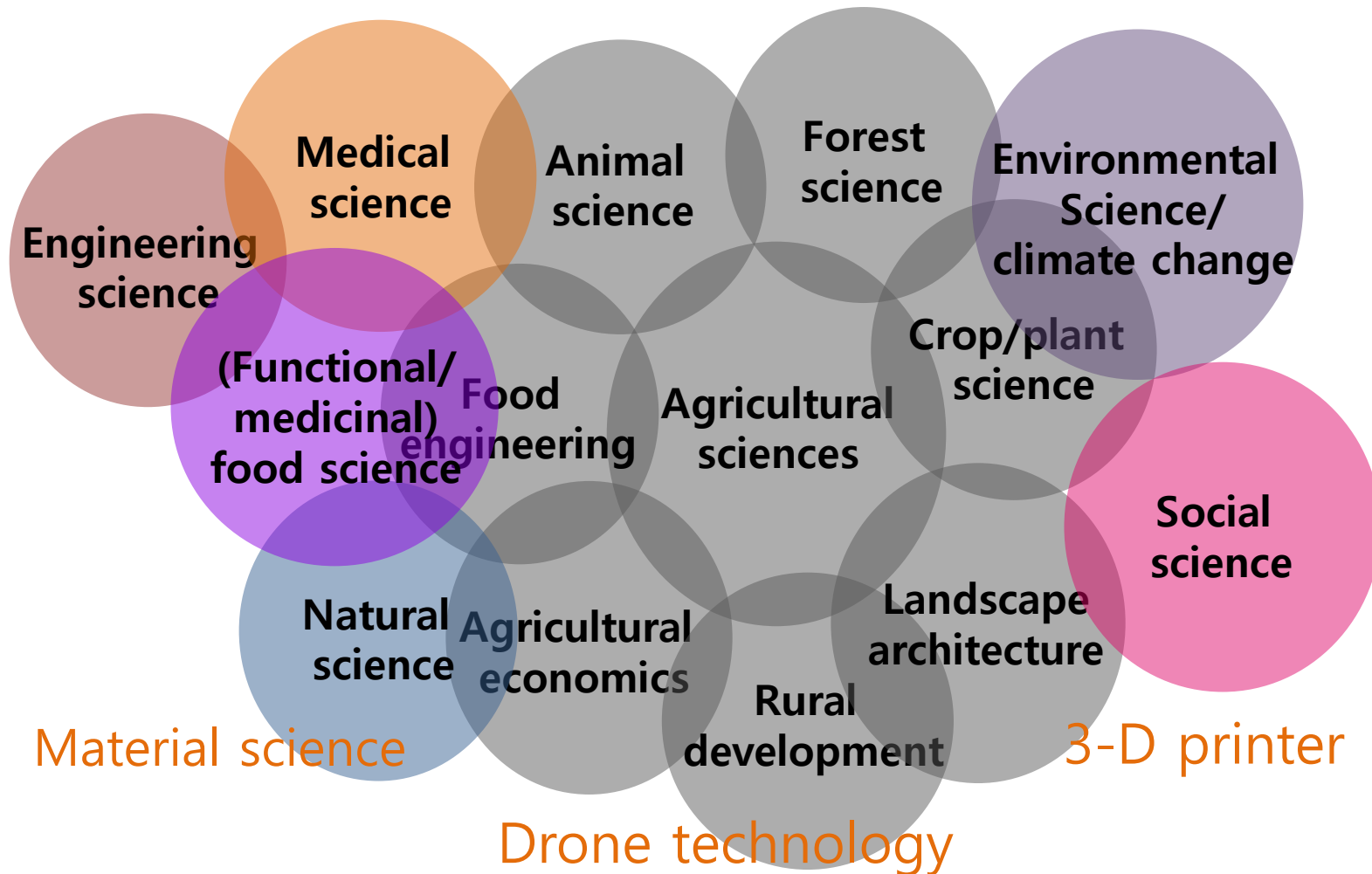
BASED ON CITATIONS PER PAPER AMONG INSTITUTIONS WITH 10,000 OR MORE CITATIONS

Rank	Institution	Papers	Citations	Citations Per Paper
1	Stanford University, Stanford, CA, USA	1,020	21,318	20.90
2	University of California, Santa Barbara, CA, USA	823	16,099	19.56
3	Princeton University, Princeton, NJ, USA	555	10,852	19.55
4	Smithsonian Institution, Washington, DC, USA	939	17,964	19.13
5	University of California, Santa Cruz, CA, USA	583	10,965	18.81
6	University of Edinburgh, Edinburgh, Scotland	663	12,411	18.72
7	University of Sheffield, Sheffield, England	789	14,357	18.20
8	University of Oxford, Oxford, England	699	12,655	18.10
9	University of Alaska, Fairbanks and other campuses, AK, USA	657	11,706	17.82
10	Max Planck Society, various locations, Germany	1,008	17,861	17.72
11	Michigan State University, East Lansing, MI, USA	1,124	19,482	17.33
12	Duke University, Durham, NC, USA	1,136	19,560	17.22
13	Umea University, Umea, Sweden	641	10,979	17.13
14	University of London Imperial College of Science, Technology & Medicine, London, England	986	16,790	17.03
15	Harvard University, Cambridge, MA, USA	1,134	19,172	16.91
16	University of Minnesota, St. Paul, MN, USA	1,488	24,620	16.55
17	University of Maryland, College Park, MD, USA	1,157	18,605	16.08
18	Arizona State University, Tempe, AZ, USA	687	10,827	15.76
19	University of Wisconsin, Madison and other campuses, WI, USA	1,801	28,372	15.75
20	Swiss Federal Institute of Environmental Science and Technology, Duebendorf, Switzerland	697	10,974	15.74

SOURCE: [Thomson Reuters's Essential Science Indicators](#) SM database

# Research field: No boundary

Merged and divided; (dis)appear

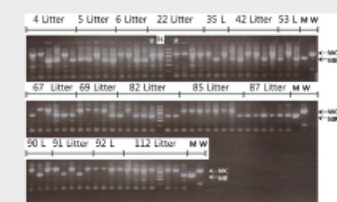




## EiC: Prof. Jong K. HA

Notice of Website Renewal | Please click "E-submission" for manuscript submission.

ARTICLE 2017 June 22  
**Polymorphism in the intron 20 of porcine O-linked N-acetylglucosamine transferase**



Objective: O-linked N-acetylglucosamine (O-GlcNAc) transferase (OGT) catalyzes the addition of O-GlcNAc and GlcNAcylation has extensive crosstalk with phosphorylation to regulate signaling and transcription. Pig OGT is located near the region of chromosome X that affects follicl...

News & Informations >  
Editorial Notice >

Current Issue  
Volume 30(8); August 2017

### Articles

- 1061 **Genome scan linkage analysis identifies a major quantitative trait loci for fatty acid composition in *longissimus dorsi* muscle in an F<sub>2</sub> intercross between Landrace and Korean native pigs**  
Hee-Bok Park, Sang-Hyun Han, Chae-Kyoung Yoo, Jae-Bong Lee, Ji-Hyang Kim, Kwang-Soo Baek, Jun-Kyu Son, Sang-Min Shin, Hyun-Tae Lim, In-Cheol Cho  
*Asian-Australas J Anim Sci.* 2017;30(8):1061-1065. Published online January 2, 2017  
DOI: <https://doi.org/10.5713/ajas.16.0562>  
Full text | PubReader | ePub | CrossRef - TDM | PDF | Supplementary Material

- 1066 **Genome-wide association study identifies 22 new loci for body dimension and body weight traits in a White Duroc x Erhualian F<sub>2</sub> intercross population**

# Trends in publishing

Rapid conversion from “print” to “electronic”

- 1997: print only
- 2009: 55% for e-only (mostly e-collections), 25% for print, only 20% for print + electronic
- 2014: 95+% e-only (in life sciences field over 99%)
- 2018: ???

Changing role of “journals” due to e-access

Increased usage of articles: more downloads

Cost per article: less (???)

Electronic submission: increased manuscript inflow

# WHY and WHAT to publish?

## **WHY** publish?

Publishing is one of the important steps embedded in the scientific research process. During the career progression, it is essential for the graduation and (often) promotion.

**What to publish:** New and original results or methods; Reviews of particular subject; Manuscripts that advance the knowledge and understanding in a certain scientific field.

**What NOT to publish:** Reports of no scientific interest; Out of date work; Duplications of previously published work; Incorrect/unacceptable conclusion.

# Peer-review in scientific publication

**Peer review** in scientific journals is the evaluation of manuscripts, usually before the publication by people familiar with the content of the manuscript (scientists for the scientific paper).

It is a type of **quality control** that helps maintain standards, improve the quality of publications and increase the credibility of published article.

## Community Values Peer Review

**Despite the criticism, surveys show peer review is valued by researchers & authors.**

Most (**69%**) researchers are satisfied with the current system of peer review but only a third think that the current system is the best we can do

Most (**84%**) believe that without peer review there would be no control in scientific communication

Almost all researchers (**91%**) believe that their last paper was improved as a result of peer review

While many want a faster process with fewer rounds, the overwhelming majority (**~70%**) prefer to wait for thorough review

**93%** of science authors consider quality of PEER REVIEW when deciding where to publish

**78%** of OA authors prefer traditional, rigorous peer review

Only **20%** want basic check followed by post-publication review

***“The qualitative data also point to the fact that peer review is the central pillar of trust.”***

*University of Tennessee and CIBER Research Ltd, December 2013*

10

*Sources: Sense About Science; Taylor & Francis; CIBER Research; NPG/Palgrave Macmillan Author Insights survey*

# What peer-review system is facing .. ..

The pressure to publish pushes down the quality .. ..

Scientists must publish less, otherwise a good research will be swamped by the ever-increasing volume of poor work.

[Daniel Sarewitz, Nature, vol. 533, 2016]



# What peer-review system is facing .. ..

**Resulting a poor-quality science**  
**Poor journal suffers from a good review**  
**process because of a lacking of good**  
**reviewers**

[Daniel Sarewitz, Nature, vol. 533, 2016]

# Peer-review system is **NOT** perfect

- Slow
- Expensive
- Subjective
- (sometimes) Biased
- Open to abuse (unfairness?)
- Poor in detecting errors & fraud:  
introducing new detection tools

# Value of Peer-review system

The value of peer review is not about filtering poor manuscripts;

Instead, peer review is valuable as a means of **enhancing the quality** of what is published (David J. Solomon, 2007).

# Type of Peer-review (method)

- **Single blind**: reviewer information is not disclosed
- **Double blind**: reviewer and author information is not disclosed
- **Open review**: reviewer and author information is open
- **Post-publication review**: review after publication

# Type of Peer-review (step)

- 1. Preliminary/in-house review:** EiC, editors screen out without (or before) external peer-review.
- 2. Peer-review:** External group of reviewers (expert).
- 3. Review after revision:** External expert group of (the same) reviewers or editors.

# General aspects of Peer-review

1. Role of peer reviewers: advisor [**NOT decider**].
  2. Peer review is imperfect, inconsistent, incomplete but often provides the best (and maybe the only) pre-publication advice to the editors.
- Review as much in-house as possible before peer review: iThenticate/CrossCheck plagiarism check; screen for data and image manipulation; make sure necessary elements (eg, ethics, guidelines checklist, protocol, supplementary material, journal requirements, data) are present.
  - Only the Editor is accountable and responsible for what is published.

# In-house Review

- Most journals adopt this system.
- Editors decide whether a given MS will be subjected to peer-review or not.
- Why necessary?
  - ✓ Being increased submission of MS
  - ✓ Limited number of reviewers.
  - ✓ To screen poor MS (in reality, many poor MS survive even after the peer-review process).
  - ✓ Need to reduce MS numbers per reviewer for more efficient, accurate, and thorough MS evaluation.

# In-house Review

- Rejection at this stage can be as high as 90%.
- Rejection criteria: scope, originality, merit, methods (esp., statistics), proficiency of English.
- Authors may request reconsideration on rejection at this stage, but very few cases are granted.



# HOW TO MAINTAIN A GOOD REVIEW SYSTEM?

# Value peer-reviewers' efforts

Reviewers are (often) unpaid, overworked, under-rewarded, and therefore ..

- Do not ask to review too often (e.g., no more than once a month and not if already reviewing).
- Reviewers should receive editor's decision (perhaps together with the other reviewers' comments).
- Editors may ask reviewers if they're willing to re-review the paper (Note: re-review only if necessary).
- Reviewers may not be paid, but (somehow) be acknowledged by the journal.
- Reviewers can (should) be rated by editors to track turnaround times for improving the quality of reviewer pool.

# Best Reviewer Award

AJAS editorial team is delighted to announce the winners of **AJAS 2015 Best Reviewer Award**, which is given annually to a few reviewers of AJAS in recognition of their outstanding efforts and contributions. We are pleased to recognize three among many invaluable reviewers as AJAS best reviewer of the year: Dr. **Liang Chou Hsia** (Yu Chou Friendly Agriculture Research Institute, Taiwan); Dr. **Yuxi Wang** (Lethbridge Research and Development Centre of Agriculture and Agri-Food Canada, Canada); Dr. **Sang-Hyon Oh** (North Carolina A&T State University, USA).

In 2015, AJAS received and reviewed 1,074 manuscripts involving over 300 volunteer reviewers. All reviewers kindly offered their outstanding expertise and professional services to support our journal. Based on both the quality and quantity of the reviews, the final winners were selected by editors and selection committee of the journal.



**Dr. Liang Chou Hsia** has been an emeritus professor of National Pingtung University of Science and Technology, Taiwan Since 2013. He received PhD degree from Edinburgh University, UK in 1981. He has widely recognized for his dedicated research efforts and professional teaching, and for regional and international contributions to animal science societies. He has served more than 40 years on researches, teaching and

**AJAS** (Asian-Australasian Journal of Animal Sciences)  
<https://www.ajas.info/>

# Acknowledge Reviewers' Service

## AJAS List of Reviewers : 2015

AJAS editorial team gratefully acknowledges all reviewers for their contribution to successful peer-review process of AJAS in 2015.

<a href="#">Abdelrahman W</a>	<a href="#">Fernandes MHM</a>	<a href="#">Kim Jae-Hwan</a>	<a href="#">Moradi Soudabeh</a>	<a href="#">Smith Stephen B</a>
<a href="#">Adebisi AO</a>	<a href="#">Gabbi Alexandre</a>	<a href="#">Kim Jin Wook</a>	<a href="#">Moran John B</a>	<a href="#">Sohn Sea Hwan</a>
<a href="#">Ahmed Saeed</a>	<a href="#">Galvani Diego B</a>	<a href="#">Kim Jong Geun</a>	<a href="#">Morgan N</a>	<a href="#">Son Ah Reum</a>
<a href="#">Ahn Dong U</a>	<a href="#">Ganesan Palanivel</a>	<a href="#">Kim Jong Ioo</a>	<a href="#">Muchenje Voster</a>	<a href="#">Son Yong Suk</a>
<a href="#">Ahn Heekwon</a>	<a href="#">Gao Feng</a>	<a href="#">Kim Jonggug</a>	<a href="#">Mujahid Ahmad</a>	<a href="#">Song Ki-Duk</a>
<a href="#">Ahn JH</a>	<a href="#">Gavojdian Dinu</a>	<a href="#">Kim Kwan-Suk</a>	<a href="#">Mürsel Özdoğan</a>	<a href="#">Song Minho</a>
<a href="#">Ahn Joungjwa</a>	<a href="#">Geesink Geert</a>	<a href="#">Kim Kyoung H</a>	<a href="#">Nam Dooseok</a>	<a href="#">Sun Sangsoo</a>
<a href="#">Alam Mahboob</a>	<a href="#">Gopinger E</a>	<a href="#">Kim Min Seok</a>	<a href="#">Nanung Danar D</a>	<a href="#">Suryanto Edi</a>
<a href="#">Amerah A</a>	<a href="#">Guangvong Zhao</a>	<a href="#">Kim Myunghoo</a>	<a href="#">Nasir Mukhtar</a>	<a href="#">Tan Soon Guan</a>
<a href="#">An Byoung Ki</a>	<a href="#">Guo Wei</a>	<a href="#">Kim Sam Churl</a>	<a href="#">Nasr Elbordeny</a>	<a href="#">Tanaka Masahito</a>
<a href="#">Anderson Robin</a>	<a href="#">Guo Yuming</a>	<a href="#">Kim Sang Hoon</a>	<a href="#">Negesse Tegene</a>	<a href="#">Tang Shaoxun</a>
<a href="#">Andrade Reis R</a>	<a href="#">Gupta Mukesh K</a>	<a href="#">Kim Sung Woo</a>	<a href="#">Netto Arlindo S</a>	<a href="#">Taniguchi K</a>
<a href="#">Asano Ryoki</a>	<a href="#">Ha Jong Kyu</a>	<a href="#">Kim Sung-Jo</a>	<a href="#">Newbold CJ</a>	<a href="#">Tao Sha</a>
<a href="#">Attia Youssef A</a>	<a href="#">Halimani Tinyiko</a>	<a href="#">Kim WK</a>	<a href="#">Nowaczewski S</a>	<a href="#">Tatsuya Unno</a>
<a href="#">Ayasan T</a>	<a href="#">Han Jae Yong</a>	<a href="#">Ko Hyun-Jeong</a>	<a href="#">Oh Sang Hyon</a>	<a href="#">Thanh Lam P</a>
<a href="#">Bai Shiping</a>	<a href="#">Han Kun-Jun</a>	<a href="#">Ko Kinarm</a>	<a href="#">Ohh Sang Jip</a>	<a href="#">Toyoda Atsushi</a>
<a href="#">Baik Myunggi</a>	<a href="#">Han Sung Gu</a>	<a href="#">Kobayashi Y</a>	<a href="#">Olukosi Oluvinka</a>	<a href="#">Tripathi MK</a>
<a href="#">Balan Prabhu</a>	<a href="#">Hao Hui Fang</a>	<a href="#">Koike Satoshi</a>	<a href="#">Oso A</a>	<a href="#">Tsuruta Shogo</a>
<a href="#">Bao Jun</a>	<a href="#">Heo Jung Min</a>	<a href="#">Kondo Seiji</a>	<a href="#">Paik In K</a>	<a href="#">Tufarelli V</a>
<a href="#">Barroga AJ</a>	<a href="#">Hocquette JF</a>	<a href="#">Kong Changsu</a>	<a href="#">Pang Huili</a>	<a href="#">Urriola Pedro</a>
<a href="#">Bassols Anna</a>	<a href="#">Honarbakhsh S</a>	<a href="#">Korde JP</a>	<a href="#">Pang Myung-Geol</a>	<a href="#">Wanapat M</a>
<a href="#">Benli Hakan</a>	<a href="#">Hong Yeong Ho</a>	<a href="#">Kraiem Khemaies</a>	<a href="#">Panjono Panjono</a>	<a href="#">Wang Chong</a>
<a href="#">Bernardino VMP</a>	<a href="#">Hongrong Wang</a>	<a href="#">Kumarasamy P</a>	<a href="#">Park Chan S</a>	<a href="#">Wang Jia-Kun</a>
<a href="#">Bhuiyan Md. SA</a>	<a href="#">Hsia Liang Chou</a>	<a href="#">Kundu SS</a>	<a href="#">Park Hee-Bok</a>	<a href="#">Wang JP</a>
<a href="#">Bin Chen</a>	<a href="#">Hsu Jih-Tay</a>	<a href="#">Kwak Wan Sup</a>	<a href="#">Park Jin Kyung</a>	<a href="#">Wang Minqi</a>
<a href="#">Bovara Fulvia</a>	<a href="#">Htoo John K</a>	<a href="#">Lai Changhua</a>	<a href="#">Park Jong-Hwan</a>	<a href="#">Wang WeiWei</a>

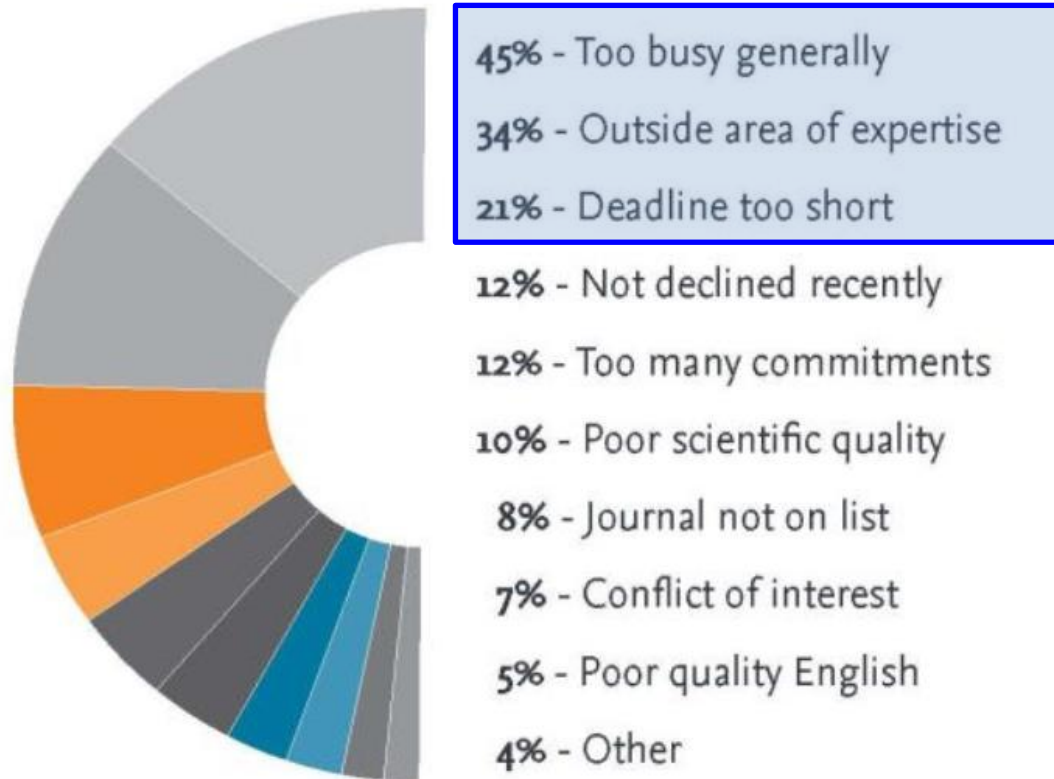
**AJAS** (Asian-Australasian Journal of Animal Sciences)

# How to establish a good review system?

- Large reviewer pool.
- Invite young reviewers (screening process).
- Compose of global reviewers.
- Develop proper rewarding program.
- Listen to both reviewers and authors
- Use reviewer performance record.

## REASONS FOR DECLINING TO REVIEW

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# Reviewer selection

- **Reviewers should be (criteria):**
  - An expert in the field
  - No conflict of interest
  - Be able to complete a thorough and timely review
- **Reviewer selection**
  - 2-3 (reviewers) per manuscript (plus stats reviewer)
  - Excluding the reviewer from the same institution
  - Authors may recommend reviewers to choose or to avoid
  - Author-recommended reviewers' contact (email) new to the editor should be verified (by the reviewer's institution)

# How to perform peer-review?



# No Bias!

- **Author-related**
  - ✓ Prestige (author/institute)
  - ✓ Gender
  - ✓ Place of work done
- **Paper-related**
  - ✓ Positive results
  - ✓ English proficiency

# As a reviewer;

- Is the MS within your field of expertise?
- Am I happy with review process/policy of the journal?
- Do I have enough time to review the MS?
  - Can I make it to the deadline?
- Do I have any COI?

# Good Reviewer

- Give a constructive and scientific opinion.
- Unbiased contribution.
- Clear & detailed comments.
- Useful and acceptable comments (to authors).
- Polite expression.
- Positive attitude toward reviewing MS as a scientist.
- Review within requested timeline.

# Poor Reviewer

- Insincerity, insulting, impolite
- Subjective
- Biased
- Vague and unclear comments
- Show off

# Items to be checked

- Importance of studied area: value/merit
- Originality
- Completeness
- Ethics
- Structure
- Language
- (if needed) Previous research

# Originality?

- New theory, fact, materials ...
- New methodology
- New application
- Test existing theory, fact, materials ...
- Advancing current theory, knowledge or technology

# Check for Misconduct

- Data fabrication and falsification
- Plagiarism
- Redundant publication
- Inappropriate authorship

**We are in need of intensive education and discussion together with a proper understanding of the regulation (at both institution and publisher).**

# How to prepare reviewer report

- Provide a short summary on the MS including main impression on the quality of MS: interesting points, novelty, new findings.
- Composition of the Report: General comments → Major comments → Minor comments → Specific comments
- Any ethical concern?
- Provide the verdict (recommendation for reject, accept, major or minor revision) to editor, **not to authors**
- (will be helpful) Advice on proficiency of language



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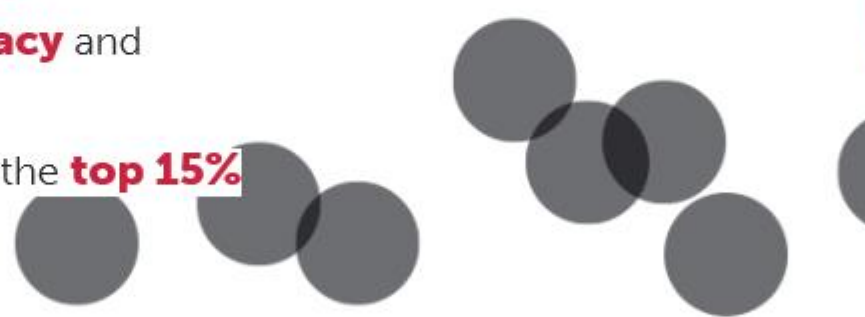


## TOP NEWS

# Frontiers leads in Gold Open-Access comparison

- > Ranked **#1** in citations in **Psychology, Neurosciences, Plant Sciences, Immunology, Neurology** and **Physiology**
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- > Journals with **Impact Factors** on average ranked in the **top 15%**

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✓ 1. Submission

✓ 2. Independent Review

✓ 3. Interactive Review

✓ 4. Review Finalized

✓ 5. Final Validation

✓ 6. Final Decision

## ★ Macrophage polarization contributes to the anti-tumoral efficacy of mesoporous nanovectors loaded with albumin-bound paclitaxel

Francisca Leonard, Louis T Curtis, [Matthew James Ware](#), [Taraz Nosrat](#), [Xuewu Liu](#), [Kenji Yokoi](#), [Hermann Frieboes](#) and [Biana Godin\\*](#)

Original Research, *Front. Immunol. - Inflammation*

Submitted on: 04 Apr 2017, Edited by: [Diana Boraschi](#) ✉

Research Topic: [Interaction of nanomaterials with the immune system: role in nanosafety and nanomedicine](#)

Keywords: Macrophage polarization, Nanotherapy, breast cancer, computational modeling, Tumor Microenvironment



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This manuscript has been accepted for publication.

History

Reviewer 1  
Endorsed

Me  
Endorsed

Reviewer 2: Cheol-Heui YUN

Independent review report submitted: 15 Apr 2017

Interactive review activated: 02 May 2017

Final report submitted: 27 May 2017

▼ Final Evaluation

**Q 1** Final comments to Author (optional):

No answer given.

**Q 2** Do you ENDORSE THE PUBLICATION of this manuscript in its current form?

 Reviewer 2: Cheol-Heui YUN | 15 Apr 2017 | 10:53

#1

The description for 'Mathematical model' is not clear to understand. Furthermore, there is no 'Supplementary information', which is described in lines 521-522.

Line 487; 'Conditioned media were harvested from macrophage-': 1) Do the conditioned media mean supernatant containing soluble factors without the cells, macrophage? 2) Why did authors remove the drug treatment and replace with fresh medium, if the purpose of this experiment was to determine whether the conditioned media containing soluble factors produced by MVS-nAb-PTX treated macrophages to examine the anti-tumorigenic milieu by TME?

There is no description of the MnM in the figure 7.

Figure 6 is in poor quality. And the legend of the figure 6 is insufficient.

 Author: Biana Godin | 18 May 2017 | 19:07

#2

"The description for 'Mathematical model' is not clear to understand. Furthermore, there is no 'Supplementary information', which is described in lines 521-522. "

-We apologize, it appears that the Supplementary information file with the model description was not uploaded properly during the manuscript submission. We made sure that the reviewer has an access to this information when the revised version of the manuscript is uploaded.

"Line 487; 'Conditioned media were harvested from macrophage-': 1) Do the conditioned media mean supernatant containing soluble factors without the cells, macrophage? 2) Why did authors remove the drug treatment and replace with fresh medium, if the purpose of this experiment was to determine whether the conditioned media containing soluble factors produced by MVS-nAb-PTX treated macrophages to examine the anti-tumorigenic milieu by TME?"

-Line 487 (new line 543). We have clarified the method and rationale as follows: "Drug treatment was removed and cells were washed twice with PBS, and fresh medium was added to the macrophages to mimic the clinically relevant situation, as clinical studies with nAb-PTX revealed that more than 90% of the drug is cleared from the circulation within 1h following intravenous administration (PMID 15930349). In the hypo-vascularized macrophage-enriched tumor lesions, macrophages can serve as the cellular depot of the drug. Supernatants (conditioned media)

## ORIGINAL RESEARCH ARTICLE

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# Macrophage Polarization Contributes to the Anti-Tumor Efficacy of Mesoporous Nanovectors Loaded with Albumin-Bound Paclitaxel

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Therapies targeted to the immune system, such as immunotherapy, are currently shaping a new, rapidly developing of promising cancer treatments, offering the potential to change the prognosis of previously non-responding patients. Macrophages comprise the most abundant population of immune cells in the tumor microenvironment (TME) and undergo differentiation into functional phenotypes depending on the local tissue environment. Based on these functional phenotypes, tumor-associated macrophages (TAMs) can either aid tumor progression (M2 phenotype) or inhibit it (M1 phenotype). Presence of M2 macrophages and a high ratio of M2/M1 macrophages in the TME are clinically associated with a poor prognosis in many types of cancers. Herein, we evaluate the effect of macrophage phenotype on the therapeutic cancer efficacy of albumin-bound paclitaxel (nAb-PTX) loaded into porous silicon multistage nanovectors (MSV). A coculture of breast cancer cells (3D-spheroid) with macrophages and *in vivo* models were conducted to evaluate the therapeutic efficacy of MSV-nAb-PTX as a function of macrophage phenotype. Association with MSV increased

# Phagocytosis by thrombocytes is a conserved immune mechanism in lower vertebrates

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Thrombocytes, nucleated hemostatic blood cells of non-mammals, are often regarded as the functional equivalent of anucleated mammalian platelets. While immune functions, including phagocytosis, have also been suggested for thrombocytes, but no conclusive molecular or cellular experimental evidence for their role in the ingestion and clearance of infiltrating microbes has been provided till date. Here, we demonstrate the active phagocytic ability of thrombocytes in lower vertebrates using teleost fishes and amphibian models. *Ex vivo*, common carp thrombocytes readily ingest live bacteria as well as latex beads (0.5–3 μm in diameter). *In vivo*, we found that thrombocytes represented nearly half of the total peripheral blood leukocyte pool in the common carp. Phagocytosis of latex beads by thrombocytes was significantly inhibited by the presence of heparin, suggesting that heparin-like molecules are involved in the phagocytic process. Our findings provide the first molecular and cellular evidence for the phagocytic ability of thrombocytes in lower vertebrates, suggesting that phagocytosis by thrombocytes is a conserved immune mechanism in lower vertebrates.

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