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FOI Number:	FOI2011/38
Date:	25 October 2011
Request:	Copies of the internal review(s) of the paper 'Bio-Benchmarking of Electronic Nose Sensors (2009) PLOS One 4(7)
Document:	Documents 1-3

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(1)

MANUSCRIPT REVIEW FORM

File number:
C2008'11038
Title of paper:
Bio-benchmarking of electronic nose sensors
Authors (asterisk managing author):
Berna, A.Z., Anderson, A.R. & Trowell, S.C.

Reviewer: M.V. Srinivasan
Date: 13 Jan 2009

Does this paper contain information that may be commercially sensitive, or may compromise patent applications or intellectual property agreements?

Yes ☐ No X

If yes, please elaborate:

Please return the manuscript with your comments, and this form, to the author(s) within 2 weeks.

Points for reviewers to keep in mind:

- Does the title adequately reflect the contents of the paper? *Yes*
- Is the abstract/summary an informative digest of the paper? *Yes, but perhaps the last sentence, which delivers the main message, could be made less ambiguous and more punchy.*
- Are the contents worthy of record in the literature? *Yes.*
- Is the substance of the paper presented clearly and concisely? *Largely, yes. As an outsider to the field, I was not able to follow all of the detail, however.*
- Are all the figures and tables needed? *Yes.*
- Are the conclusions supported by the data presented? *Yes.*
- Has the most appropriate journal been chosen? *I should leave this judgment to the experts, as I am not fully familiar with the state of the field. If the common perception so far has been that MOS-based e-noses should perform just as well as those that use biologically-derived OR tuning characteristics, then this paper shows clearly and quite convincingly that this assumption is no longer true, and would merit publication in a high-impact journal*

General comments: (continue overleaf if necessary)
Please also feel free to make specific comments on the manuscript itself.

It was not clear to me (until after re- reading the manuscript a few times) that the tuning properties and the responses of the insect ORs were not measured in the Trowell lab, but were obtained entirely through data from another paper (Hallem et al.). Have I understood this correctly? If so, I think it would be useful to emphasize this point right at the outset.

Other minor comments are embedded in the two attached PDF documents

Recommendation: *Nice study, rigorously conducted, clear results. It should merit submission to a high-profile journal, if the current opinion in the literature is that MOS –based e-noses should perform as well as biological noses. If it is decided to follow this route I would suggest making the main message a little more punchy, especially in the abstract. As it stands, the significance of the findings may escape the non-expert.*

Reviewer's signature:

M. U. Srinivasan

Date: 13 Jan 2009

Communication and Publication Procedures

Aims of process

- The proposed framework will attempt to improve scientific **productivity** and **impact** through an increase in the rate of publications in refereed journals of high quality. The process will maintain the current low incidence of very poor quality outputs and IP risks.

- The intention is to streamline the process for all publications with clear directions for approvals at various levels. This approach will be light-handed and will not involve additional resources across the Division, nor a time-consuming paper trail.

Process overview

Table 1: Publication types and their process requirements

Output type	Process stage (Table 2)				Comments
	1	2	3	4	
Refereed journal paper	✓	✓	✓	✓	Process should focus on getting the paper the highest citation rate possible - this may be a trade off between journal impact factor and target audience.
Chapter in conference proceedings	✓		✓	✓	Process should focus on whether an opportunity to publish in a journal is being missed or compromised, and checking for IP issues.

Book chapter	✓	✓	✓	✓	Is the book likely to be high impact? Would a journal be a better venue?
Book / monograph	✓	✓	✓	✓	Process should focus on resources - a book is a major long term commitment.
Poster	✓		✓	✓	Process should focus on any IP issues.
CSIRO Entomology Technical report and paper series				✓	To be reviewed as an output format.
Report to client				✓	Dealt with at the team level as a contractual issue with the client. Once accepted, urgent consideration should then be given to publication in the peer reviewed literature.

For example: If a journal paper is suggested, steps 1, 2, 3 and 4 from Table 2 would be needed. Conference proceedings would only involve stages 1, 3 and 4 (no refereeing).

Table 2 - Publication process stages

Stage	Purpose	Mechanism	Key questions	Who

1.	Impact and resource discussion (generally before completing the output)	Discuss target for output, nature and implications of science content, resource implications	Are there any IP issues in publishing the work? Book, journal or conference proceedings? Which journal?# Is the proposed output potentially "bigger" than the target venue? Is time off-line needed to do a good job? If a book, what are the resource implications long term?	**Author** and **Team Leader** (who may implicate higher levels if necessary)
2.	Quality control stage	Refereeing - **one** referee's^ report required - referee may be within or **outside** CSIRO. Optional manuscript review form.	Has the right target venue been chosen? (aim is to stop truly high quality papers going to low impact journals and low quality papers going to high impact journals#).	1. **Team Leader** or delegate 2. **Referee** in the discipline area chosen by author

3.	Submission stage	Author gets approval from Team Leader and submits	Re-check for IP issues. For journal papers, chapters and books, have the referee's concerns been addressed where necessary?	1. **Team Leader** approval required (who may implicate higher levels if necessary) 2. **Author** submits
4.	Database updating	Author submits a short electronic form from the intranet to Communication Group when paper has been published for update of publications database*.	Has all relevant information been copied to the appropriate file and forwarded to RMU? This includes data references, proofs, referee comments, copyright forms signed by Chief, official notification by journal, reference number in Procite database.	**Author** submits form

Notes

By default, we should be aiming for journals in the top 20% ISI impact factors to give ourselves the best chance of global reach. Scientists may however have valid reasons for selecting target venues of lower impact e.g. to reach a particular target audience - the decision though must be justified in some way to line management.

^ Currently two referees are required for every output. We propose reducing this to one referee plus the Team Leader who is already engaged, restricting the requirement to journal papers, chapters and books, and making explicit that the referee does NOT have to be from within the Division.

* It is a requirement that the database be maintained for external reporting. Publication lists for Annual Performance Reviews and promotion cases will in the first instance be based on the Divisional publications database outputs.

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Electronic form

Each author must submit details of their publication through the electronic form (see 4 in Table 2).

Publications database

The Divisional publications database is maintained by Angela Arena at reception in Canberra. The electronic form that you fill out is emailed automatically to Angela. This information is uploaded into CSIRO's publications database at http://www.csiro.au/services/infomanage/im/cspublist/index.htm
which can be searched by staff.

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Tool kit for authors

Journal Impact

Select the most appropriate journal for your paper by checking Journal Citation Reports.
Access Journal Citation Reports direct:
http://go5.isiknowledge.com/portal.cgi/jcr
or via the ISI Web of Knowledge gateway:
http://go5.isiknowledge.com/portal.cgi

Writing

Style Manual forAuthors, Editors and Printers - fifth edition
http://www.agimo.gov.au/information/publishing/style_manual

A print copy of the latest edition (sixth) is available in the Reference Collection at Black Mountain Library. Call Number: R 8.081 St

A good guide to writing scientific papers is on the University of Colorado's web site:
http://writing.colostate.edu/references/processes/science/pop2a.cfm

Another useful guide is *Writing Guidelines for Engineering and Science Students* available on the Virginia Tech web site:
http://www.writing.eng.vt.edu/
The site includes sample formats for different document types, as well as exercises on word usage, punctuation, grammar and style. It also links to on-line chapters of *The Craft of Scientific Writing* by Michael Alley.

Authorship

Check out the Division's guidelines at
http://www.ento.csiro.au/staff/publications/authorship_co.html

Guidelines for citing references

Check out the Division's guidelines at
http://www.ento.csiro.au/staff/publications/citing_guidelines.html
and
http://www.ento.csiro.au/staff/publications/citing_gdelnes_web.html

Copyright

Check out CSIRO's copyright policies and procedures on the CSIRO Intranet:
https://www.csiro.au/intranet/ip/copyright/index.html

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When providing images for publication always acknowledge the photographer and CSIRO copyright. e.g. Photo: D. McClenaghan. © CSIRO.

If you have any queries on these issues, please contact the Division's Communication's Manager, Julie Carter.

The CSIRO logo

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http://www.csiro.au/intranet/communication/branding/

Intellectual Property

See the information on the CSIRO Intranet:
https://www.csiro.au/services/ipinfosheets/contents.htm

Reference Sites

- CSIRO Black Mountain Library http://www.bml.csiro.au/

- Search for print guides to scientific writing via the *Voyager* catalogue at: http://voyager.its.csiro.au/
  or contact Library staff for assistance: library@bml.csiro.au

Dictionaries and Thesauruses

- Cambridge Dictionaries Online http://dictionary.cambridge.org

- Merriam-Webster Online Dictionary and Thesaurus http://www.m-w.com/

- Oxford English Dictionary Online http://www.oed.com/

- Thesaurus.com (not Roget's) http://thesaurus.reference.com/

Search for acronyms and abbreviations

- Wiley Interscience
  http://www3.interscience.wiley.com/cgi-bin/mrwhome/104554766/HOME
  Click on the Acronym Finder link at the bottom of the page

- Acronym Finder http://www.acronymfinder.com/

Search for journal abbreviations

- All That JAS: Journal Abbreviation Sources:
  http://www.public.iastate.edu/~CYBERSTACKS/JAS.htm

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CSIRO Entomology
Communication and Publication Procedures

Guidelines for Authorship/Co-authorship

Contents:

Authorship/Co-authorship

Staff are required to reach agreement with colleagues and team members about authorship before the document (scientific paper, report, abstract, seminar) is produced. It is important to agree on who will be an author and what the order of the names will be, particularly if potential co-authors are from other institutions.

The following needs to be taken into account:

- The accepted rules on what constitutes enough input to justify co-authorship vary in different institutions.
- The order of authors varies among disciplines, e.g. in biological research, principal author first, in chemistry, often authors are alphabetic or senior author last.
- Prior intellectual input into the work from colleagues not currently involved in the work needs to be recognised, but not necessarily through authorship.
- People who have been involved in the work but not considered to be authors should be acknowledged where appropriate.
- It is critical that supervisors give correct advice to their project teams about the importance or otherwise of publications to team members' promotion prospects. Publications are not a prerequisite for promotion within the range CSOF 2-4. In many cases they are important within research support in the CSOF 5-6 range but they are not relevant in all circumstances.

Co-authorship of Scientific Manuscripts

For scientific papers (defined as citable publications) co-authorship is appropriate where a person has made significant intellectual input into the paper. This may be in the form of ideas and interpretations, writing of areas of the paper involving professional knowledge and application of that knowledge to interpretation of results, or supervising and guiding of research.

Several actions, sometimes regarded personally as important, do not on their own justify co-authorship, though when combined with other considerations may help justify it.

These include:

- Carrying out routine technical or experimental work under instruction. Sheer volume of work is not sufficient. (Significant changes to technical procedures may be intellectual input).
- Obtaining funding for a piece of work (unless the officer also had significant input into the concept and design of the project).
- Analysis of data by procedures defined by others or with standard packages.
- Providing the environment in which the work can be carried out.
- Writing routine descriptions of procedures (e.g. the Materials and Methods sections of a paper, where there have been no critical changes made).
- Supply of diagrams, photos and other illustrations.
- Reinterpretation of data of historical nature (in this case, the collector of the original data need not be considered an author of reinterpreted work).

These inputs should be properly recorded in the 'Acknowledgment' section of the paper. It is important to acknowledge the technical input of the research support staff when authorship is not warranted. If a technical staff member has made changes to a procedure that leads to new insights, he or she can be recognised as a co-author the first time the procedure is published, but in subsequent papers that use the technique the original contribution can be referenced in the text.

It is the Division's preference that the order of authorship follow the 'biological' tradition with the principal author placed first. Unless there are exceptional reasons, the principal author will be the immediate supervising scientist of the research reported, i.e. the person who directs the research, puts the paper together and writes the Introduction and Discussion sections. They should also have a significant input into how the results are analysed and interpreted.

Papers resulting principally from study for higher degrees (MSc and above) are regarded as being the intellectual work of the student. Thus, normally the student is the principal (first) author. The student may invite the supervisor to be co-author and the supervisor may accept or decline on the basis of input into the particular paper and personal tradition. Exceptions to these guidelines can arise when the student has minimal or no involvement in the preparation of their thesis material for publication. However, the student's permission is required to use their unpublished work.

Review papers can be single authorship even when they contain unpublished work by other staff members. These contributions should be appropriately acknowledged as unpublished, with 'authorship' rules as above. Where there is extensive use of the unpublished work of others, there should be careful consideration of whether co-authorship would be more appropriate than acknowledgment.

Reports and Non-citable Abstracts

The authorship rules for reports, such as annual reports, final reports for external agencies, can be much more relaxed than for formal scientific journals. Typically, the supervisor will be named first, followed by staff involved in the particular project being described. This facilitates communication by persons outside the Division as it gives the correct contact person for the work first and then acknowledges the input of others to the task. Where it is appropriate for another person in the group to be the contact person, the supervising scientist may wish to vary the order appropriately.

Posters

Similarly for posters, authorship can be much more relaxed and for some technically oriented posters it may be appropriate for technical staff to be principal authors. However, with the increasing tendency for some or all conference publications to be given as posters rather than as standard presentations, early consideration within the project team may need to be given as to whether such a poster should be treated as a scientific publication.

Related information:

- Communication and Publication Procedures
- Policy and Procedures Manual
- CSIRO Publications *[Corporate link]*

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