

# **612: Preparation and Submission of Articles for Publication**

**Some General Guides,  
but not Gospel**

**COSPAR Capacity Building Workshop, Kumasi, Ghana, June 2017**

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# Why We Publish

For scientists in academia, publishing is **our bread and butter**.

Publishing is also an opportunity to make a **contribution to scientific knowledge**. In our case this is often to further our understanding of the natural world and ways in which humans have perturbed this natural state.

There is also a system in place for evaluating each other's work (**peer-review**). There is considerable discussion in the literature about the effectiveness and robustness of this system.

Our publication record is also frequently how we're judged (for better or worse). Some metrics that are used include the number of publications, number of citations, quality of journals submitted to.

Quality of journals is quantified using the **impact factor** (e.g. 34 for Science, 38 for Nature, 3 for Atmospheric Environment, 5 for Atmospheric Chemistry and Physics).

Options to track your progress:

Use Google Scholar or ISI Web of Science (or similar) to quantify your publication record. I prefer Google Scholar as it's easier to customize, update and maintain than ISI. Also provides a complete publication record to refer to when putting together a CV.

# Screenshot of my private Google Scholar page

**Article title**

**Author list**

**Articles ordered by number of citations**

**Number of citations**

**h-index**

**Citations in each year**

**Citations in each article**

The screenshot displays the Google Scholar profile of Eloise Marais, a researcher at the University of Birmingham. The profile is private and includes a blue graduation cap icon. The main section lists eight articles, sorted by the number of citations they have received. Each article entry shows the title, author list, journal information, and the number of citations. To the right of the article list, there is a section for 'Citation indices' showing the total number of citations (456), the h-index (12), and the i10-index (13). Below this is a bar chart showing the number of citations received each year from 2009 to 2017. The chart shows a steady increase in citations over the years, with a significant jump in 2016. The 'Add co-authors' section lists several co-authors, including Daniel J. Jacob, Karen Yu, Katherine Travis, Jenny Fisher, Jingqiu Mao, Patrick S Kim, Tebello Nyokong, Havala O. T. Pye, Fabien Paulot, and Alex Guenther. The 'Co-authors' section also includes an 'Edit...' link and a note that there are no co-authors listed.

**Profile Information:**

**Eloise Marais**  
University of Birmingham  
Atmospheric Chemistry, Earth observations, air quality  
No verified email  
My profile is private - Make it public

**Citation indices**

	All	Since 2012
Citations	456	410
h-index	12	12
i10-index	13	13

**Citations in each year**

Year	Citations
2009	0
2010	0
2011	0
2012	0
2013	1
2014	2
2015	3
2016	10
2017	5

**Articles ordered by number of citations**

Title	Author list	Citations	Year
Photocatalysis of 4-nitrophenol using zinc phthalocyanine complexes	E Marais, R Klein, E Antunes, T Nyokong	69	2007
Isoprene emissions in Africa inferred from OMI observations of formaldehyde columns	EA Marais, DJ Jacob, TP Kurosu, K Chance, JG Murphy, C Reeves, ...	64	2012
Adsorption of 4-nitrophenol onto Amberlite® IRA-900 modified with metallophthalocyanines	E Marais, T Nyokong	61	2008
Global budget and radiative forcing of black carbon aerosol: Constraints from pole-to-pole (HIPPO) observations across the Pacific	Q Wang, DJ Jacob, JR Spackman, AE Perring, JP Schwarz, N Moteki, ...	54	2014
Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO <sub>2</sub> emission controls	EA Marais, DJ Jacob, JL Jimenez, P Campuzano-Jost, DA Day, W Hu, ...	34	2016
Top-down isoprene emissions over tropical South America inferred from SCIAMACHY and OMI formaldehyde columns	MP Barkley, ID Smedt, M Van Roozendael, TP Kurosu, K Chance, ...	28	2013
Why do models overestimate surface ozone in the Southeast United States?	KR Travis, DJ Jacob, JA Fisher, PS Kim, EA Marais, L Zhu, K Yu, ...	27	2016

**Add co-authors**

Co-author	+	x
Daniel J. Jacob	+	x
Karen Yu	+	x
Katherine Travis	+	x
Jenny Fisher	+	x
Jingqiu Mao	+	x
Patrick S Kim	+	x
Tebello Nyokong	+	x
Havala O. T. Pye	+	x
Fabien Paulot	+	x
Alex Guenther	+	x

**Co-authors** Edit...  
No co-authors

# Screenshot of my private Google Scholar page

**Article title**

**Author list**

**Articles ordered by number of citations**

**Number of citations**

**h-index**

**Citations in each year**

**Citations in each article**

The screenshot displays the Google Scholar profile of Eloise Marais, a researcher at the University of Birmingham. The profile is private and includes a placeholder photo. The main section lists articles ordered by the number of citations they have received. Each article entry shows the title, author list, journal name, volume/issue/page, and the number of citations. A hand cursor is pointing at the citation count '34' for the article 'Aqueous-phase mechanism for secondary organic aerosol formation...'. To the right, the 'Citation indices' section shows a total of 456 citations, an h-index of 12, and an i10-index of 13. Below this is a bar chart showing the number of citations per year from 2009 to 2017. The 'Add co-authors' section lists several co-authors with plus and minus icons for adding or removing them. The 'Co-authors' section shows a list of co-authors and an 'Edit...' link.

**Profile Information:**

Eloise Marais  
University of Birmingham  
Atmospheric Chemistry, Earth observations, air quality  
No verified email  
My profile is private - Make it public

**Articles (ordered by citations):**

Title	Author list	Citations	Year
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Year	Citations
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2010	0
2011	0
2012	0
2013	28
2014	54
2015	0
2016	34
2017	0

**Add co-authors:**

Co-author	+	-
Daniel J. Jacob	+	-
Karen Yu	+	-
Katherine Travis	+	-
Jenny Fisher	+	-
Jingqiu Mao	+	-
Patrick S Kim	+	-
Tebello Nyokong	+	-
Havala O. T. Pye	+	-
Fabien Paulot	+	-
Alex Guenther	+	-

**Co-authors:** Edit...  
No co-authors



# Screenshot of one of my articles

Full text options



Eloise Marais

Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO<sub>2</sub> emission controls

[PDF] from [atmos-chem-phys.net](http://atmos-chem-phys.net)  
FullText!@BHAM

Author list

Authors Eloise A Marais, Daniel J Jacob, Jose L Jimenez, Pedro Campuzano-Jost, Douglas A Day, Weiwei Hu, J Krechmer, Lei Zhu, Patrick S Kim, Christopher C Miller, Jenny A Fisher, K Travis, Karen Yu, TF Hanisco, Glenn M Wolfe, HL Arkinson, Haval OT Pye, KD Froyd, J Liao, VF McNeill

Publication date 2016/2/11

Journal Atmospheric Chemistry and Physics

Volume 16

Issue 3

Pages 1603-1618

Publisher Copernicus GmbH

Article details

Description Abstract. Isoprene emitted by vegetation is an important precursor of secondary organic aerosol (SOA), but the mechanism and yields are uncertain. Aerosol is prevailing aqueous under the humid conditions typical of isoprene-emitting regions. Here we develop an aqueous-phase mechanism for isoprene SOA formation coupled to a detailed gas-phase isoprene oxidation scheme. The mechanism is based on aerosol reactive uptake coefficients ( $\gamma$ ) for water-soluble isoprene oxidation products, including sensitivity to aerosol acidity ...

Abstract

Total citations Cited by 34

Citations in each year



Link to publications that have cited this article

Scholar articles Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the southeast United States and co-benefit of SO<sub>2</sub> emission controls

EA Marais, DJ Jacob, JL Jimenez, P Campuzano-Jost... - Atmospheric Chemistry and Physics, 2016  
Cited by 30 - Related articles - All 7 versions

Aqueous-phase mechanism for secondary organic aerosol formation from isoprene: application to the Southeast United States and co-benefit of SO<sub>2</sub> emission controls

EA Marais, DJ Jacob, JL Jimenez, P Campuzano-Jost... - Atmos. Chem. Phys., 2015  
Cited by 5 - Related articles - All 5 versions

Articles associated with this entry

# The Process

**Analyze** some data (in this case it might be satellite observations of atmospheric composition over West Africa).

Generate **results** that provide new insight into atmospheric composition in West Africa, such as new sources of pollution not yet identified. Assess the implications for air quality by running an atmospheric chemistry model.

**Write up** the results into a format suitable for a targeted journal.

Receive **preliminary acceptance** from the journal for the peer review process (pass initial formatting and content requirements of the journal). A word of caution: follow the formatting requirements to the letter!

**Wait for** what seems like forever for **anonymous reviews** from experts in the field (can be as few as 2 reviews or as many as 4).

**Respond to reviews** (maybe provide an additional figure or table or more detail about a process that was not clear to the reviewers). Some reviewers are reasonable; many or not. Often the reviewers help to make the paper better and more accessible.

Once accepted by the Editor, undergo the **final proofreading** (this is your last chance to catch errors that would otherwise be recorded with permanence). These are embarrassing and avoidable (they convey sloppiness in writing that translates to sloppy data analysis)!

## Exercise 1: Identify a Suitable Journal

**Task:** Select a title from the list below. Once assigned, identify an appropriate journal to submit to and justify your choice.

### **Titles to choose from:**

1. A review of atmospheric chemistry and air pollution in West Africa.
2. Planning, Implementation and scientific goals of the West Africa DREAM field campaign.
3. Satellite observations of methane concentrations over gas flares in Nigeria.
4. Land cover change in Senegal from 1991-2013.
5. Contribution of charcoal production and use to air pollution and vegetation loss in Burkina Faso.
6. Remote sensing of crop yields across the Sahelian belt.
7. Soil salinity in the Lake Chad Basin.

### **Questions to guide your discussion (more may arise during your search):**

What journal should this work be published in? Why?

What are the submission requirements (a google search like *Environmental Research Letters submission requirements* should lead you to the relevant information)?

Are there other factors that make this journal suitable (cost, word restrictions, figure/table limitations)?



## **Some journals to choose from (you may know others not on this list):**

Science

Nature

Science Reports

The Lancet

PloS ONE

Atmospheric Chemistry and Physics

Environmental Research Letters

Environmental Health Perspectives

Atmospheric Environment

Environmental Science and Technology

Geophysical Research Letters

Proceedings of the National Academy of Sciences (PNAS)

Atmospheric Measurement Techniques

Biogeosciences

Bulletin of the American Meteorological Society

Geoscientific Model Development

Science of the Total Environment

Nature Communications

Journal of Geophysical Research - Atmospheres

Global Biogeochemical Cycles

Nature Geosciences

## **How to know which journals and publishers to avoid:**

See the list of predatory journals and publishers (good way to weed out spam):

<http://beallslist.weebly.com/standalone-journals.html>

## How to write an effective abstract

Keep concise and to the point (think of the reader)! Edit, edit, edit. Generally readers use the abstract to determine whether it's worth reading the article.

Here's a strategy I suggest: write the abstract, edit and re-edit. Then put it away for a week and focus on something else. This allows you to come back to the abstract and find errors or sentences that aren't clear or could be more concise.

Waiting for a week isn't always feasible for conferences, as there's generally a mad scramble to meet the abstract submission deadline. But there's generally no need to rush an abstract for a peer-reviewed publication.

To write an effective abstract, address the following questions:

**What is the question/issue/problem?**

**What was done (methods)?**

**What was found (results)?**

**Why is this important?**

## Exercise 2: Critique Abstracts

**Task:** Choose an abstract, identify where the abstract addresses these 4 main questions. If it doesn't, is it justified in leaving it out?

**Here are the questions again:**

**To write an effect abstract, address the following questions:**

**What is the question/issue/problem?**

**What was done (methods)?**

**What was found (results)?**

**Why is this important?**

# Generate Effective and Clear Figures

Effective figures and tables should be neat, clear, and self contained.

The intention of the figures and tables is to convey information more effectively than could be conveyed in the text.

## Exercise 3: Critique a figure

**Task:** Assess whether the figure below is clear and self contained. What information is missing? How should this information be provided (in the plot or the caption)?

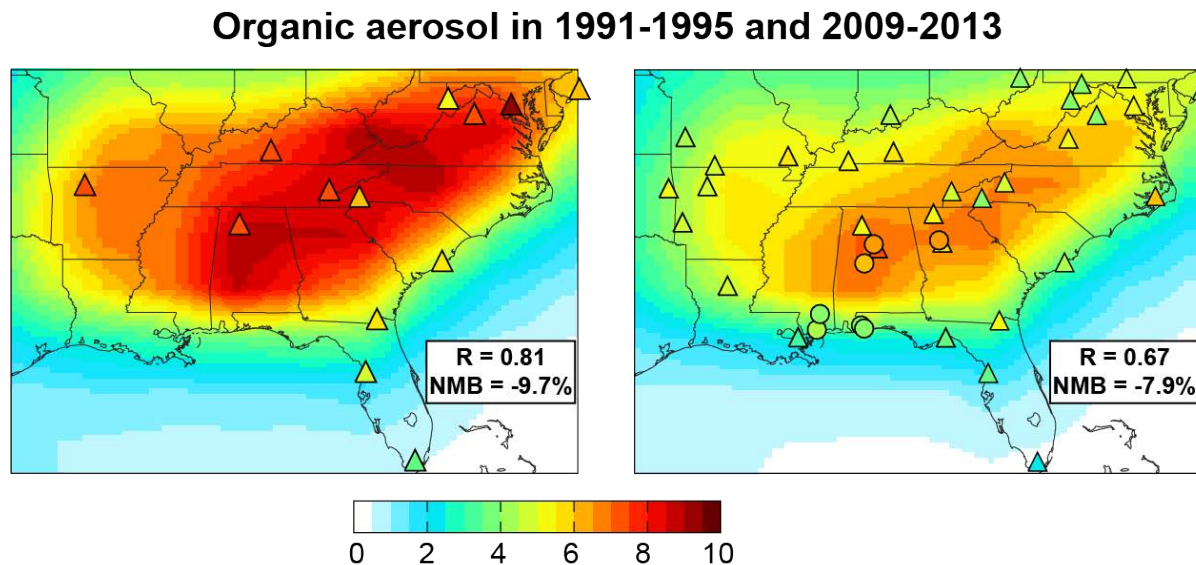


Figure 1. Organic aerosol mass concentrations in the Southeast United States.

# How to become a productive and prolific writer

Writing is challenging, exhausting, and sometimes you just don't feel like it.

Some suggestions on improving your writing and productivity:

- Develop a **writing schedule** and stick to it! Set aside an hour a day to write productively and without any disturbances.
- Keep a **writing journal** to track your productivity. This could be an Excel spreadsheet of the number of pages written each day, number of papers and proposals submitted each year etc.
- Get experienced writers to **critique your writing**
- Learn to be critical of your own writing (Is this the most effective word to use? Can I say this more concisely? Is this accessible to the reader?).
- Form a **writing group** to motivate each other to stick to a writing schedule, develop writing targets, and hold each other accountable if targets aren't met.
- **Read a lot and extensively.** Read fiction, non-fiction, science articles, policy articles, newspaper articles. Identify phrases that work well. Keep a dictionary or your phone close by to look up new words that you might be able to incorporate in your writing.
- Subscribe to email lists for relevant journals to receive alerts of new articles if you're looking for new material to read.



## Additional Details

Some books about writing and writing styles:

*The Elements of Style*, Strunk and White

*How to Write a Lot: A Practical Guide to Productive Academic Writing*, Paul Silvia

*On Writing*, Steven King

Consider subscribing to receive article alerts from the following journals:

*(All journals provide clear instructions on how to subscribe to their email lists)*

Environmental Science and Technology

Atmospheric Chemistry and Physics

Geophysical Research Letters

Nature

Nature Climate Change

Nature Geosciences

Science

Environmental Research Letters

Journal of Geophysical Research