

The Art of Scientific Publication

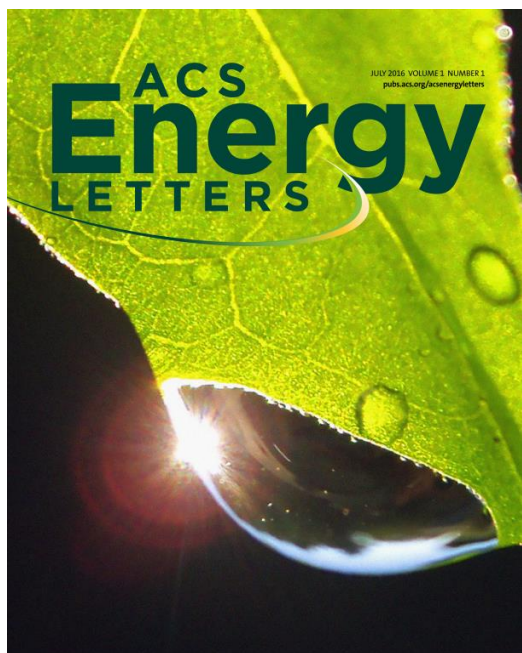
(How to make your next paper effective?)

Prashant V. Kamat

**Rev. John A. Zahm Professor of Science
Chemistry & Biochemistry and Radiation Laboratory
University of Notre Dame**

Disclaimer: The suggestions and remarks in this presentation are based on personal research experience. Research practices and approaches vary. Exercise your own judgment regarding the suitability of the content.

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We Editors Are Authors, Too



**Balancing the role as an author, reviewer,
and editor in scientific publishing.**

Sharing Scientific Knowledge

“Science is a shared knowledge based on a common understanding of some aspect of the physical or social world”

(NAP, “On Being a Scientist” 1995)

Presentations

- Social conventions play an important role in establishing the reliability of scientific knowledge

Publications in peer reviewed journals

- Research results are privileged until they are published

Thesis

What is Scientific Publication?

The object of research is to extend human knowledge beyond what is already known.

But an individual's knowledge enters the domain of science only after it is presented to others in such a fashion that they can independently judge its validity

(NAP, "On Being a Scientist" 1995)

In 2004

"A paper is an organized description of hypotheses, data and conclusions, intended to instruct the reader. *If your research does not generate papers, it might just as well not have been done*" (Whitesides, Adv. Mater., 2004, 16, 1375)

In 2019

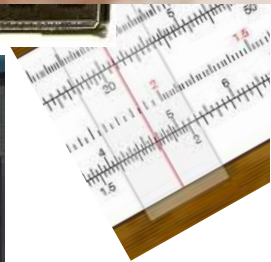
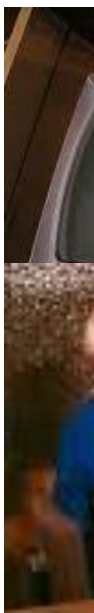
"If your paper does not generate citations, it might just as well not have been done" (P. Kamat)

A HISTORIC PERSPECTIVE

Evolution of Media

- 1844 Samuel Morse installed a telegraph line between Baltimore and Washington, DC.
- 1876 Alexander Graham Bell patented the telephone.
- 1924 Hollerith's Tabulating Machine Company becomes IBM.
- 1941 Konrad Zuse developed the first programmable calculator using binary numbers and Boolean logic.
- 1964 IBM released the IBM model 360 mainframe computer.
- 1965 Digital Equipment Corporation (DEC) introduced the PDP-8
- 1969 Honeywell sold its model H316 "Kitchen Computer" at Nieman Marcus priced at \$10 600 (\$53 087 in 2003 dollars).
- 1969 U.S. Department of Defense initiated the ARPANet between military installations and universities.
- 1974 Vint Cerf and Bob Kahn proposed connecting networks together to form an "Internet".
- 1977 Apple Computer Company introduced the Apple 1 computer.
- 1981 IBM introduced the IBM PC.
- 1992 Tim Berners-Lee spawned the World Wide Web - release of HTML

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Electronic
Gadgets



Internet

The Colour of the Sea.

THE view has been expressed that "the much-admired dark blue of the deep sea has nothing to do with the colour of water, but is simply the blue of the sky seen by reflection" (Rayleigh's Scientific Papers," vol. 5, p. 540, and NATURE, vol. 83, p. 48, 1910). Whether this is really true is shown to be questionable by a simple mode of observation used by the present writer, in which surface-reflection is eliminated, and the other factors remain the same. The method is to view the surface of the water through a Nicol's prism, which may for convenience be mounted at one end of a tube so that it can be turned about

By putting a slit at one end of the tube and a grating over the Nicol in front of the eye, the spectrum of the light from the water can be examined. It was found to exhibit a concentration of energy in the region of shorter wave-lengths far more marked than with the bluest sky-light.

of incidence of the sun's rays on the water. When the plane of observation and the plane of incidence were the same, and the observer had his back to the sun and looked down into the water, the colour was a brilliant, but comparatively lighter, blue. As the plane of observation is swung round the colour becomes a deeper and darker blue, and at the same time decreases in intensity, until finally when the plane of observation has swung through nearly 180° the water appears very dark and of a colour approaching indigo. Both the colour and the intensity also varied with the altitude of the sun.

C. V. RAMAN.

Raman Spectrograph



Raman's Spectrograph



First Raman spectra

Electrochemical Photolysis of Water at a Semiconductor Electrode

ALTHOUGH the possibility of water photolysis has been investigated by many workers, a useful method has only now been developed. Because water is transparent to visible light it cannot be decomposed directly, but only by radiation with wavelengths shorter than 190 nm (ref. 1).

For electrochemical decomposition of water, a potential difference of more than 1.23 V is necessary between one electrode, at which the anodic processes occur, and the other, where cathodic reactions take place. This potential difference is equivalent to the energy of radiation with a wavelength of approximately 1,000 nm. Therefore, if the energy of light is used effectively in an electrochemical system, it should be possible to decompose water with visible light. Here we describe a novel type of photo-electrochemical cell which decomposes water in this way.

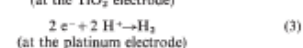
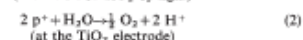
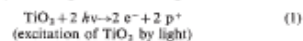
Electrolysis of water can occur even without applying electric power if one of the following three conditions is fulfilled. First, oxygen evolution occurs at a potential more negative than that at which hydrogen evolution occurs in normal conditions; second, hydrogen evolution occurs at a potential more positive than that at which oxygen evolution occurs in normal conditions; third, the potential for oxygen evolution is made more negative and that for hydrogen evolution is made more positive, until the former is more negative than the latter.

Current-voltage curves of a semiconducting n-type TiO₂

electrode have been measured with a static potentiometer in the dark and under irradiation with light² (Fig. 1). Anodic current which is proportional to the intensity of light begins to flow for wavelengths shorter than 415 nm, that is 3.0 eV, which corresponds to the band gap of TiO₂. The current reaches saturation at potentials positive relative to a saturated calomel electrode (SCE). These facts suggest that the anodic reaction is related to the formation of holes in the valence band by light excitation. Oxygen evolution was confirmed by several means of analytical measurements^{3,4}. Oxygen evolution occurs at -0.5 V (SCE) in an aqueous electrolyte of pH 4.7; this is more negative than the standard potential. We have termed such behaviour "photosensitized electrolytic oxidation" (ref. 2). When halogen ions were introduced in the electrolyte, they were also oxidized through the suggested mechanism of photosensitized electrolytic oxidation. This also occurred with other types of n-type semiconductor such as ZnO and CdS (ref. 5). We believe therefore that the oxygen evolution reaction on the TiO₂ electrode under irradiation belongs to the first category described above.

We then constructed an electrochemical cell in which a TiO₂ electrode was connected with a platinum black electrode through an external load (Fig. 2). When the surface of the TiO₂ electrode was irradiated, current flowed from the platinum electrode to the TiO₂ electrode through the external circuit. The direction of the current reveals that the oxidation reaction (oxygen evolution) occurs at the TiO₂ electrode and reduction (hydrogen evolution) at the platinum black electrode.

We suggest that water can be decomposed by visible light into oxygen and hydrogen, without the application of any external voltage, according to the following schemes:



The overall reaction is



The starting potential of the oxidation reaction at the TiO₂ electrode corresponds almost exactly to the flatband potential which is constant in the electrolyte solution of a given pH. To

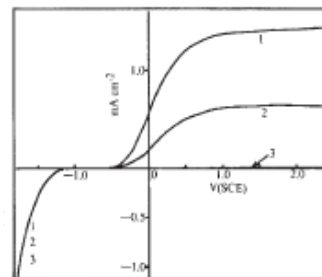


Fig. 1 Current-voltage curves for TiO₂ n-type semiconductor. A single crystal wafer of n-type TiO₂ (rutile) was used after treatment at 700°C at 10⁻⁴–10⁻³ torr for roughly 4 h to increase the conductivity of the crystal. This wafer was approximately 1.5 mm thick and the exposed (001) surface area was approximately 1.0 cm². Indium was evaporated on to one side of the surface to ensure ohmic contact and a copper lead wire was connected on the indium layer with silver paste. All other surfaces were sealed by epoxy resin.

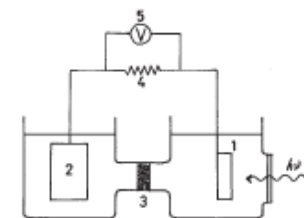


Fig. 2 Electrochemical cell in which the TiO₂ electrode is connected with a platinum black electrode (see text). The surface area of the platinum black electrode used was approximately 30 cm².

increase the efficiency of the decomposition process, more reducible species, for example, dissolved oxygen or Fe²⁺ ions, must be added in the compartment of the platinum electrode. When Fe²⁺ ions were added, the current produced under irradiation increased. Currents of a few mA flowed when the TiO₂ electrode (surface area ~1 cm²) was irradiated by a 500 W xenon lamp; we estimate the quantum efficiency in this case to be approximately 0.1. The e.m.f. of the cell was measured to be up to 0.5 V.

It is possible that the hydrogen evolution reaction shifts towards more positive potential than normal when suitable p-type semiconductor electrodes are irradiated, in the same way that photosensitized oxygen evolution occurs with n-type semiconductor electrodes. If such a p-type semiconductor electrode is used instead of the platinum electrode, electrochemical photolysis of water may occur more effectively.

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1. Czeh, A., *Ber. Deutsch. Chem. Gesellschaft*, **43**, 880 (1910).
2. Fujishima, A., Honda, K., and Kikuchi, S., *J. Chem. Soc. Japan (Kogyo Kagaku Zasshi)*, **72**, 108 (1969).
3. Fujishima, A., and Honda, K., *J. Chem. Soc. Japan*, **74**, 355 (1971).
4. Fujishima, A., and Honda, K., *J. Institute of Industrial Science, University of Tokyo (Seisan Kenkyu)*, **22**, 478 (1970).
5. Fujishima, A., Sugiyama, E., and Honda, K., *Bull. Chem. Soc. Japan*, **44**, 504 (1971).

BIOLOGICAL SCIENCES

One and Two-dimensional Structure of Alpha-Helix and Beta-Sheet Forms of Poly(L-Alanine) shown by Specific Heat Measurements at Low Temperatures (1.5–20 K)

HOMOPOLYPEPTIDES provide good model systems for various aspects of proteins^{1,2}. Recent advances in high polymer and solid state physics have enabled the vibrational aspects of the simpler homopolypeptides to be treated as normal—but complicated—polymers by the theoretical techniques of lattice dynamics based on the experimental methods of neutron, infrared and Raman spectroscopy. Basically, however, these latter methods examine the optical vibrational modes of a system, that is, those modes which are of energy higher than, for example, 70 cm⁻¹. The important lower-energy modes are

Cited more than 5000 times

With continuous change in the Publication Domain

Authors' ability to make an effective presentation

needs to be recognized

THE EVOLUTION OF ACADEMIA

PUBLISH



<1990

PUBLISH
OR
PERISH



2000

PUBLISH
IN HIGH IMPACT
JOURNALS
OR
PERISH



2010

PUBLISH
FREQUENTLY IN
HIGH IMPACT
JOURNALS
AND
MAYBE
YOU WON'T
PERISH

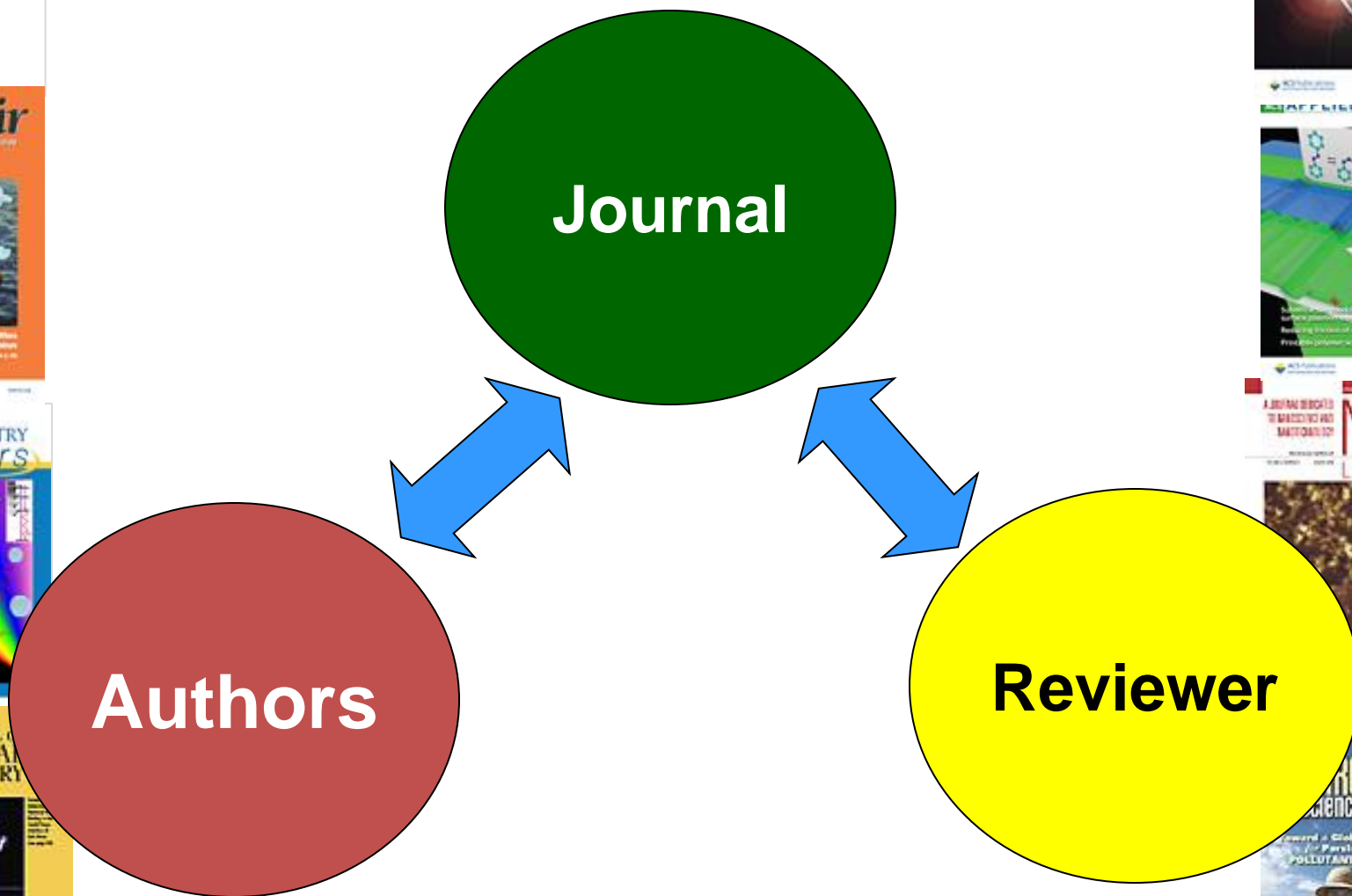


2020

[facebook.com/pedromics](https://www.facebook.com/pedromics)

PEER REVIEW

Scientific Publication is a Team Effort



ACS Journals: <http://pubs.acs.org/about.html>



What is publishable....

Journals like to publish papers that are going to be widely read and useful to the readers

- Papers that report “**original and significant**” findings that are likely to be of interest to a broad spectrum of its readers
- Papers that are **well organized and well written**, with clear statements regarding how the findings relate to and advance the understanding/development of the subject
- Papers that are **concise and yet complete** in their presentation of the findings

Note: OA Journals such as Scientific Reports, Frontier Journals, PLoS One ACS Omega and RSC Advances publish technically sound papers

Three sets of obligations of a researchers to adhere to professional standards.

- 1. An obligation to honor the trust that their colleagues place in them.**
- 2. An obligation to themselves.
Irresponsible conduct in research can make it impossible to achieve a goal.**
- 3. An obligation to act in ways that serve the public.**



<http://www.nap.edu/catalog/12192.html>
Available free for one download

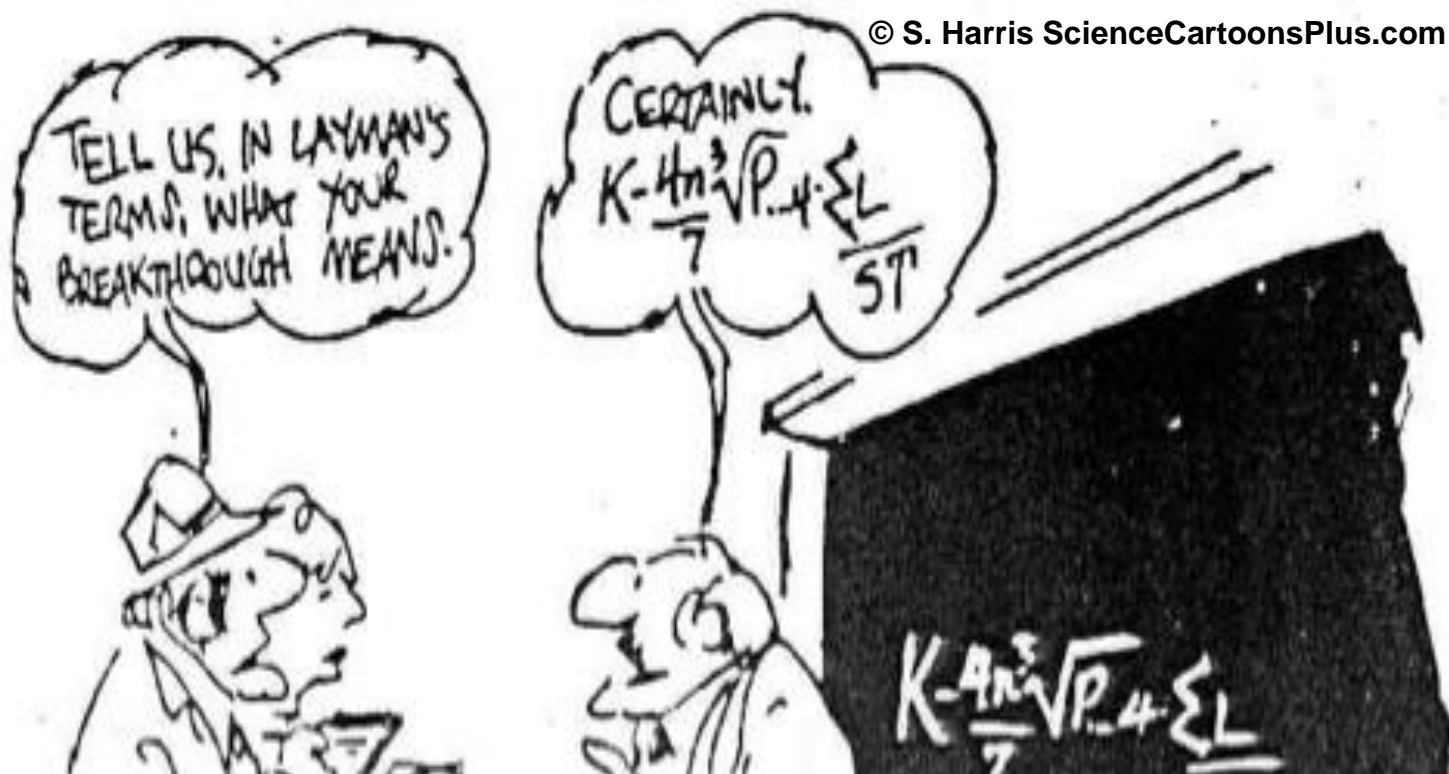
When am I Ready to Write a Manuscript?

Ask yourself,

- Do my data “tell a story” or are they merely pieces of information?

- Do the data tell a story that is known to the scientific community?

- Is the data new?



When you start writing a manuscript

It feels like



The 1-hour workday

Jeffrey J. McDonnell

+ See all authors and affiliations

Science 12 Aug 2016:
Vol. 353, Issue 6300, pp. 718
DOI: 10.1126/science.353.6300.718

Science

"I wake up early, make an espresso, and write until I'm spent."



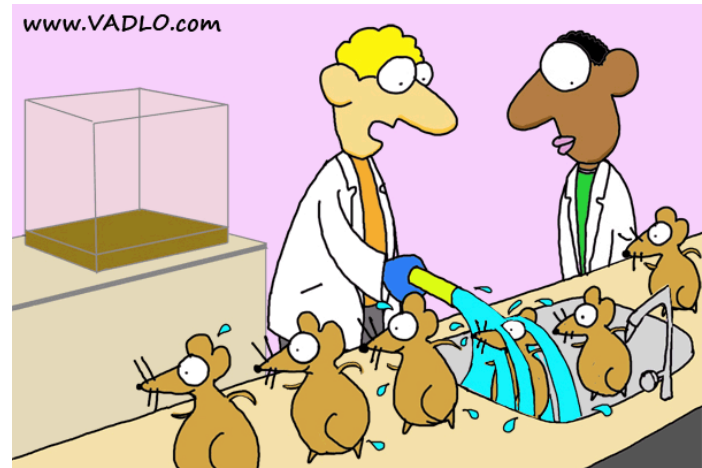
"I noticed a few senior colleagues who published with impressive regularity and always had a paper in the works. When I asked them what their secret was, I found that they prioritized doing small amounts of focused writing every day. I've since developed my own version of this approach. **I call it the 1-hour workday,**

- Your supervisor
- Other labmates or
- A knowledgeable s
with the details of



Let us begin

- Getting ready with data
- Structure of a scientific paper
- Recognizing the scope of the journal
- Submission
- Revision and galley proof



"Preparing them for a publication quality photograph."

THE JOURNAL OF
PHYSICAL CHEMISTRY
Letters

2013, 4, 1578–1581

Editorial

pubs.acs.org/JPCL

How to Make Your Next Paper Scientifically Effective

Getting ready with the data and drawing an outline

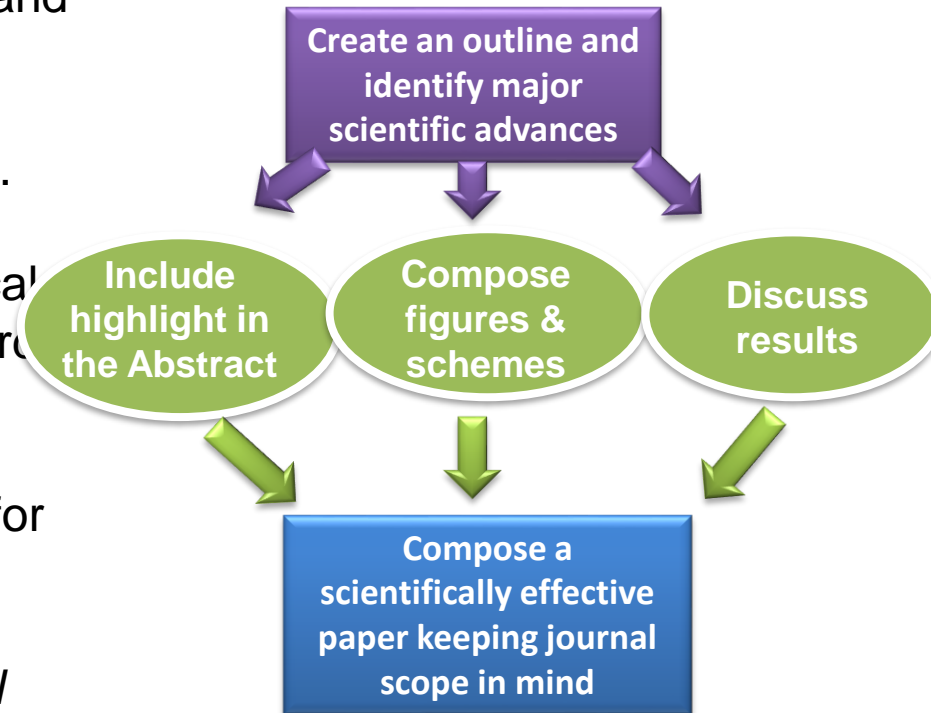
Gather all important data, analyses, plots and tables. **Identify two or three important findings** emerging from the experiments. Make them the central theme of the article.

Organize results so that they follow a logical sequence (this may or may not be in the order of experiments conducted)

Consolidate data plots and create figures for the manuscript
(*Limit the number of total figures (6-8 is usually a good number). Include additional data, multimedia in the Supporting Information.*)

Discuss the outline with your advisor and note down important points

<http://www.editage.com/insights/how-to-create-an-outline-for-your-research-paper>



Note the readership of the journal that you are considering to publish your work



Important: KNOW the focus of your paper

**It takes a wise man to know whether he
has FOUND A ROPE or LOST A MULE.**

- Anonymous quote



Title

Compose a title that is simple, attractive and accurately reflects the investigation

- Phrases to avoid: Investigation, Study, Novel, Facile, Highly Efficient etc.
- Avoid Acronyms that are known only to specialized community

Study of SERS Chemical Enhancement Factors Using Buffer Layer Assisted Growth of Metal Nanoparticles on Self-Assembled Monolayers

Masato M. Maitani[†], Douglas A. A. Ohlberg[‡], Zhiyong Li[‡], David L. Allara^{†*}, Duncan R. Stewart[‡] and R. Stanley Williams[‡]

Publication Date (Web): April 16, 2009 (Communication)

DOI: 10.1021/ja809347y

Which of these two titles make you read the paper?

“Signal-On” Detection of DNA Hole Transfer at the Single Molecule Level

Tadao Takada, Yuichiro Takeda, Mamoru Fujitsuka and Tetsuro Majima^{*}

Publication Date (Web): April 23, 2009 (Communication)

DOI: 10.1021/ja9009919

<http://www.editage.com/insights/5-tips-to-help-you-create-a-research-paper-title>

You be the judge

In-situ development of elastic solid electrolyte interphase via nano-regulation and self-polymerization of sodium itaconic on graphite surface

Stability in Perovskite Photovoltaics: A Paradigm for Newfangled Technologies

Oxidative R¹-H/R²-H Cross-Coupling with Hydrogen Evolution

Tipping the Balance between S- π and O- π Interactions

Proteomic Identification of Protein Tyrosine Phosphatase and Substrate Interactions in Living Mammalian Cells by Genetic Encoding of Irreversible Enzyme Inhibitors

Laser Photolysis Kinetic Study of OH Radical Reactions with Methyl tert-Butyl Ether and Trimethyl Orthoformate under Conditions Relevant to Low Temperature Combustion: Measurements of Rate Coefficients and OH Recycling

Abstract

Keep it short and effective.

Include major findings in a style that a general readership can read and understand (*i.e.*, avoid detailed experimental procedures and data.)

-Be creative in generating curiosity

(Avoid “*In this study, we have investigated...*” Or “*We report herein ...*”)

TOC Graphics

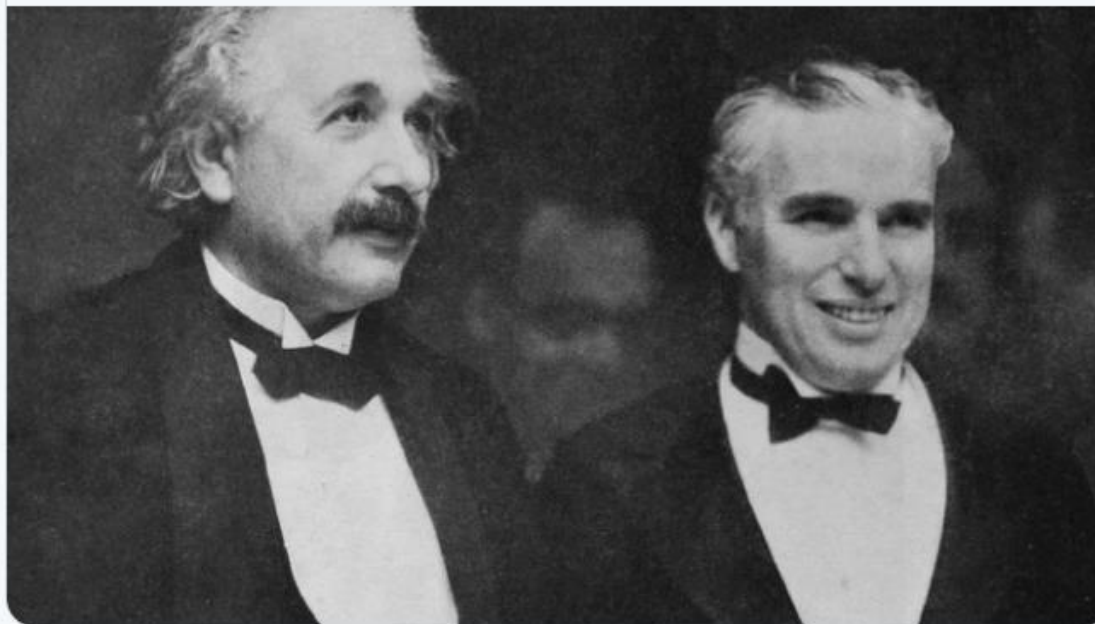
“...you don't say a word, yet the world understands you”

 **The Nobel Prize**  @NobelPrize · 10h

When Albert met Charlie:

Einstein: What I most admire about your art, is your universality. You don't say a word, yet the world understands you!

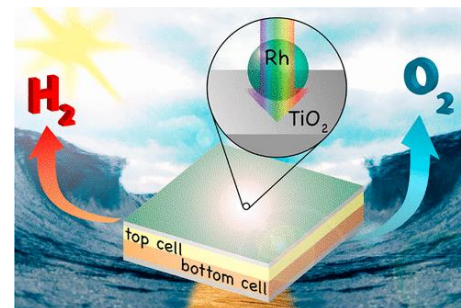
Chaplin: True. But your glory is even greater! The whole world admires you, even though they don't understand a word of what you say.



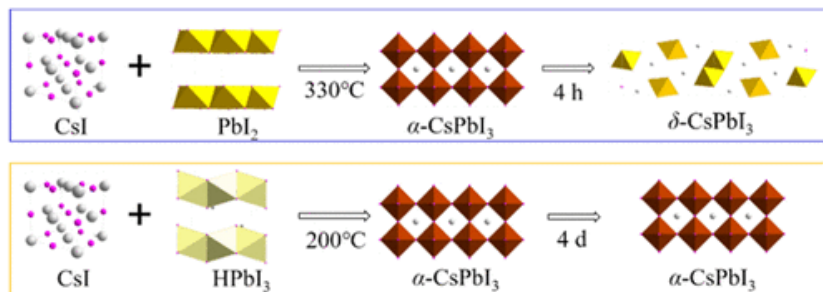
TOC Graphics



ACS Appl. Energy Mater., **2018**, 1 (7), pp 3030–3034



ACS Energy Lett., **2018**, 3, 1795–1800



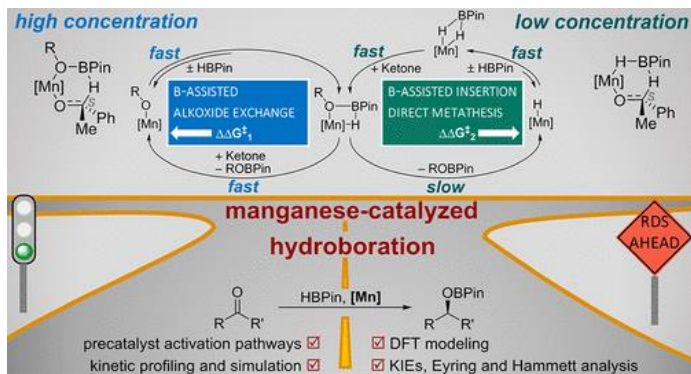
ACS Energy Lett., **2018**, 3, 1824-1831



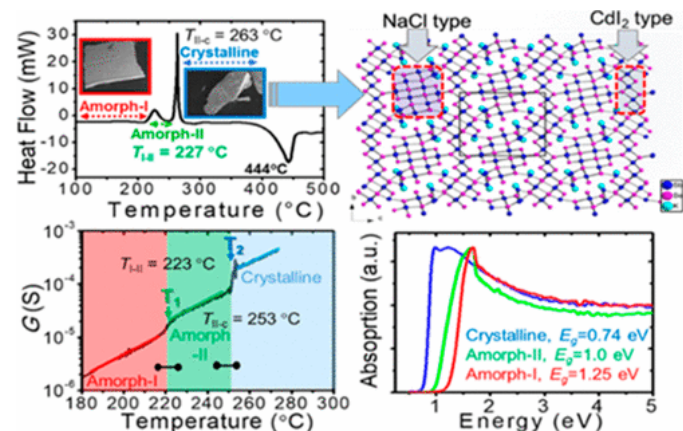
ACS Energy Lett., **2017**, 2, 2071–2083

Keep it Simple

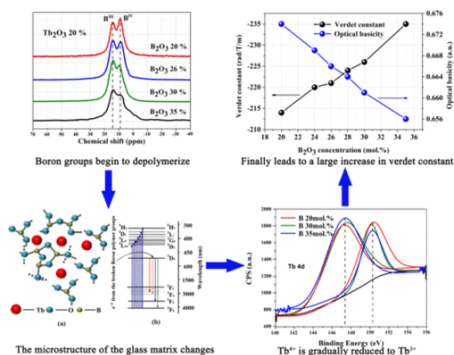
Avoid Clutter, Too much Information



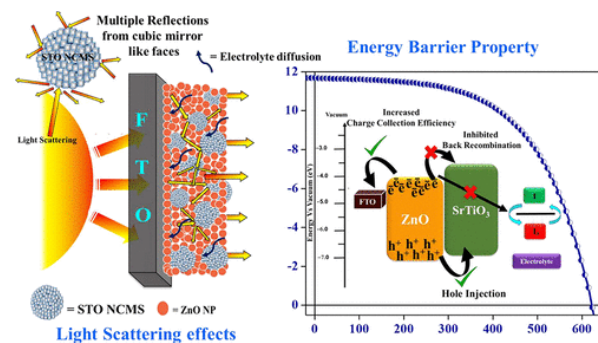
J. Am. Chem. Soc., **2018**, *140*, 9244–9254



J. Am. Chem. Soc., **2018**, *140*, 9261–9268



J. Phys. Chem. C, **2018**, *122*, 16894–16900



J. Phys. Chem. C, **2018**, *122*, 16550–16560

Introduction

- Start the section with a general background of the topic.
- Add 2-3 paragraphs that discuss previous work.
- Point out issues that are being addressed in the present work.

Experimental Section

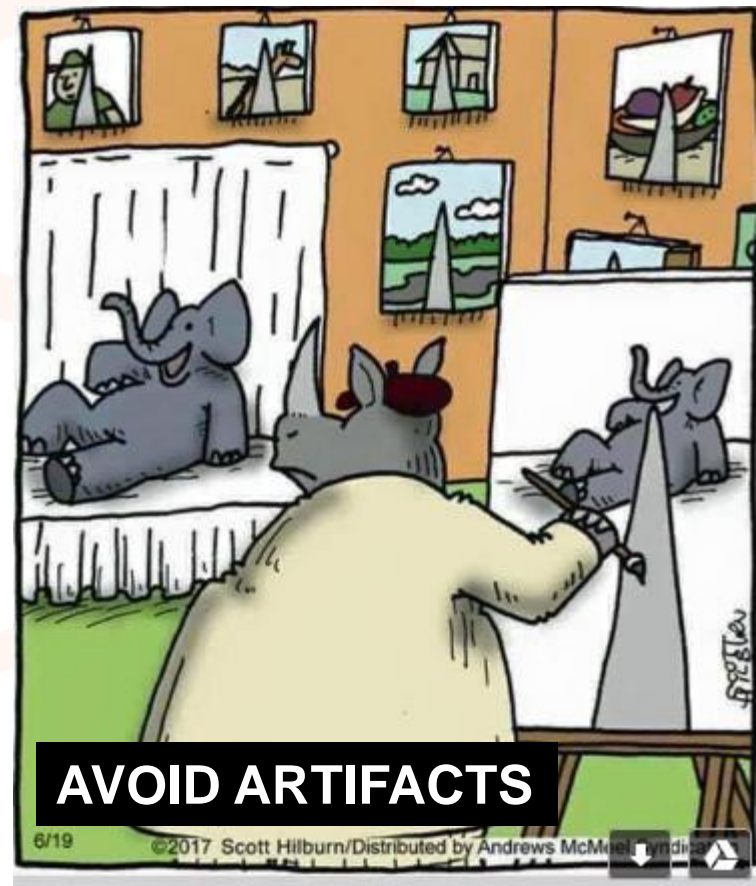
- Divide this section into Materials & Methods, Characterization, Measurements and Data analysis

Results and Discussion

- Describe the results in detail and include a healthy, detailed discussion
- The order of figures should follow the discussion themes
- Discuss how your data compare or contrast with previous results.
- Include schemes, photographs to enhance the scope of discussion

Avoid

- Excessive presentation of data/results without any discussion
- Citing every argument with a published work



LIFESTYLE

Warning over tinned tuna and other canned goods due to worrying zinc levels

Tinned tuna is a popular food in Britain – but some researchers suggest limiting consumption

Issue 3, 2018

Previous Article

Check your procedure and calculations carefully

Media reports about high levels of zinc in tinned tuna are based on flawed data

Friday April 13 2018

.... However, we calculated this meal should have contained 2.1mg of zinc, not 996mg. The recommended daily allowance is about 9.5mg a day for men and 7mg for women, so this would be within the limit.a NHS/UK analysis

<https://www.nhs.uk/news/food-and-diet/media-reports-about-high-levels-zinc-tinned-tuna-are-based-flawed-data/>

Paper was soon Retracted

Conclusions

Include major findings followed by brief discussion on future perspectives and/or application of present work to other disciplines.

Important: Do not rewrite the abstract.

Statements with phrases, “investigated”, “demonstrated”, “carried out” or “studied” **are not conclusions!**

Acknowledgments

Remember to thank the funding agency and
Colleagues/scientists/technicians who might have provided assistance

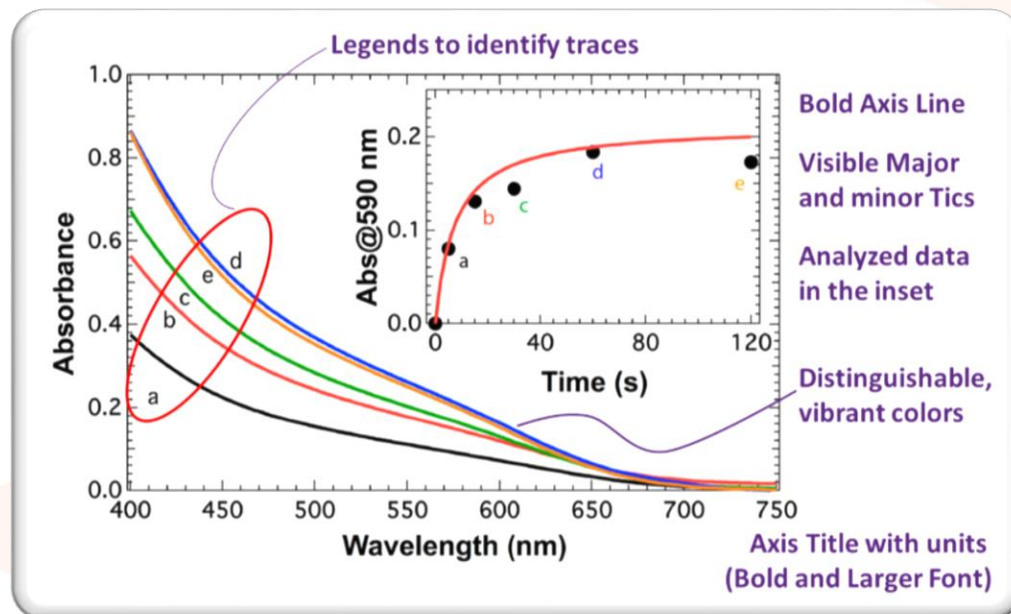
References

The styles vary for different journals. (Use ENDNOTE, RefWorks)
Some journals require complete titles of the cited references
Please check for the accuracy of all citations

Supporting Information

Include methods, analysis, blank experiments, additional data

- A careful and scientifically accurate representation of the data gives the impression that the data were obtained in a careful and accurate manner.
- Editors, reviewers, and readers are human and may logically equate sloppy figures with sloppy data/experiments/theory.



(p01p and p01p01)

- The citations reflect the scope of the study and that is being considered for submission is appropriate.
- They are Important in projecting the importance of the study.

THE JOURNAL OF
PHYSICAL CHEMISTRY
Letters

2014, 5, 2118–2120

Graphical Excellence

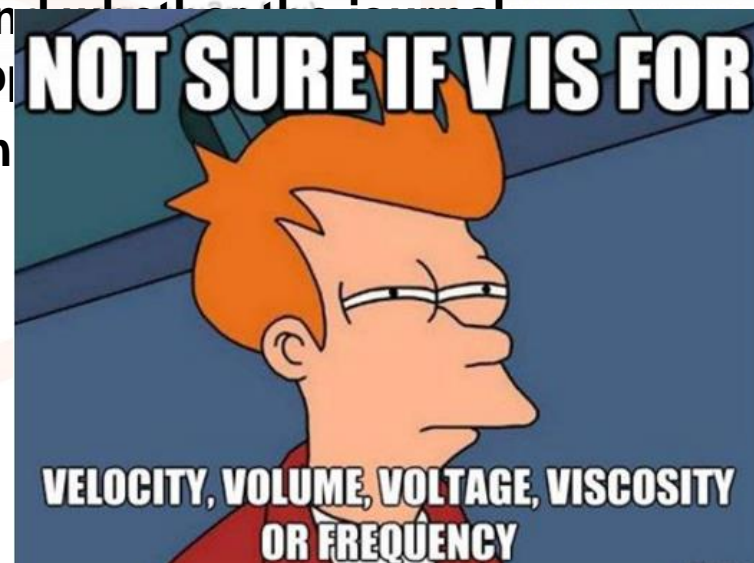


Figure:

Two important aspects to keep in mind:

- (1) accuracy of data presentation and
- (2) aesthetics of the figure.

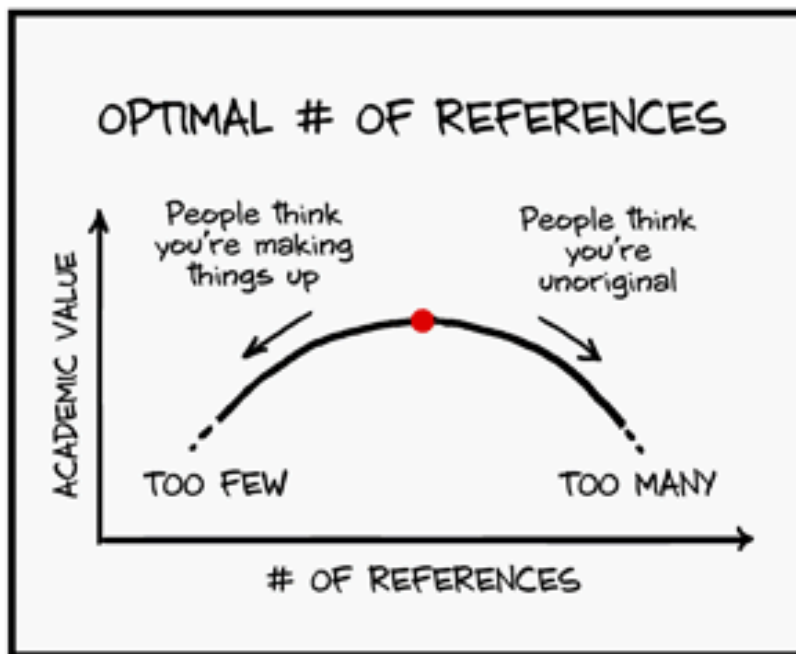
According to Tufte, a figure or graphic is a well-designed presentation of interesting data that consists of complex ideas communicated with clarity (no ambiguity or confusion), precision (truthful results with no distortions), and efficiency (minimal “chart junk”)

Tufte, E. R. *The Visual Display of Quantitative Information*; Graphics Press: Cheshire, CT, 1983; pp 1–197.

Figure Captions.

The description of the figure is intended to explain the data and analysis so that the reader can fully appreciate the scientific value of the results. Proper identification of the data sets and analysis is an integral part of the caption.

- Cited references add to the overall impact of the scientific research
- Know the scope of the previous publications
- Get the citation right (Check for accuracy)




JORGE CHAM © 2015

The mystery of the phantom reference



Anne-Wil Harzing - Thu 26 Oct 2017 13:42 (updated Wed 22 Nov 2017 18:48)

citationwatch.com/2017/11/14/phantom-reference-le-got-almost-400-citations/#more-52598

- Prof. Anne-Wil Harzing, Middlesex University
With Prof. Pieter Kroonenberg, Leiden University 
Web: www.harzing.com
Email: anne@harzing.com

.....Pieter found that in the Web of Science there were **nearly 400 articles citing this non-existing reference** and many more citing articles appeared in the more comprehensive Google Scholar.

Get the citation right.

“ Make sure that each citation is complete with all parts of the citation included (author names, journal name, pagination, etc.). Check the citation for accuracy by comparing it to the original published work. ”

exist. It
ence

examples

“ Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2010. The art of writing a scientific article. *J Sci. Commun.* 163 (2) 51–59. ”

Puzzled, Harzing set out to understand how so many authors could cite this paper.

Harzing found that nearly 90% of the citations were for conference proceedings papers, and nearly two-thirds of these appeared in *Procedia* conference volumes, which are published by Elsevier.

How do I Choose the Best Journal for my Manuscript Submission?

- **Understand in which field and subfield** your findings will have the greatest impact:

- Will the results be relevant to a variety of chemical disciplines?

- (So *Science* or *Nature*?)

- Will the results impact primarily a specialized subfield?

- (So *Journal of Physical Chemistry* or *ACS Nano*?)

Identify who you want to reach:

Match the **desired audience** for your findings with the readership of a journal

How Can I Write an Effective Cover Letter?

The cover letter should contain:

- Title and type of manuscript
- Statement that you are transmitting on behalf of all Authors (unless you are sole Author)

Do not repeat the statements from the abstract

The primary objective of a cover letter is to **inform the Editor of your major findings** and to **highlight the relevance** of the manuscript for the journal's readership

Reviewer Suggestions

Identify peers who can best judge your paper

Younger researchers who have an established research track record make the best pool of reviewers

Names to avoid

- Nobel laureates
- Obligations
- Former colleagues
- Friends
- Reviewers

Re: Manuscript [REDACTED] Assigned for Review
From: [REDACTED]
Sent: Mon, Feb 5, 2018 at 7:42 pm
To: eic@energylett.acs.org

Dear Sir

I found that my name is on the Acknowledgement.
Is it OK in terms of conflict of interest.
If it is the case, I have to resign from referee.
Would you please let me know your decision on this?

Best wishes,
[REDACTED]

Editors go through names based on reviewer is unavailable other reviewers i

Identify

Quick checklist before Submission of a paper

- Is the Title appealing to broader readership?
- Have significant findings been identified in the abstract?
- Does introduction provide motivation for the study?
- Are the figures and schemes scientifically correct and aesthetically attractive?
- Do the discussion of results and cited references fall within the scope of the journal?
- Have proper acknowledgements been made?
- Have all coauthors seen and commented on the final draft of the manuscript?

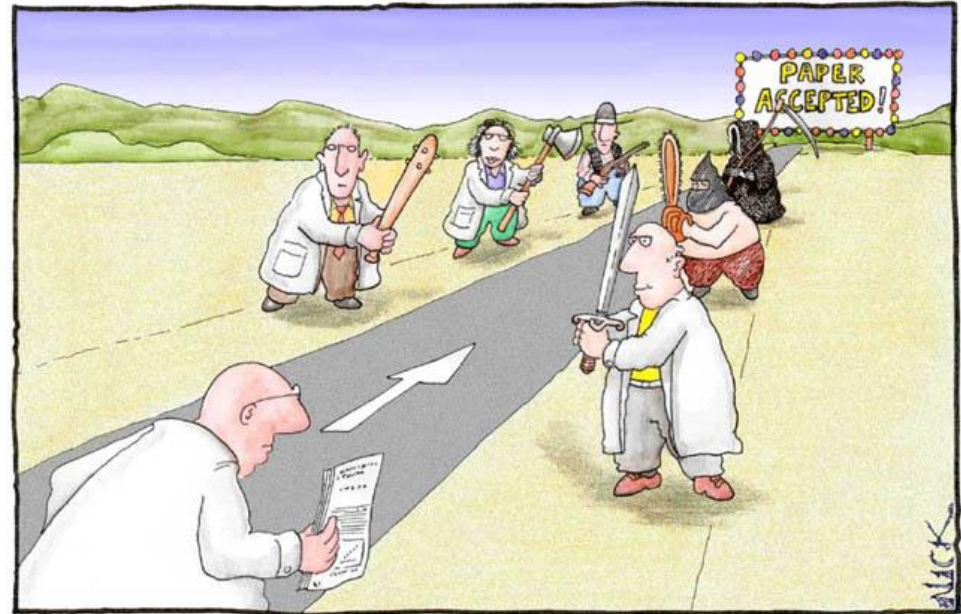
Review Process

Paper is first examined in the editorial office for suitability, scope and content

Papers that do not meet submission criteria, poorly composed papers are returned after editorial review

Editors assign reviewers to seek feedback on the scientific quality and scope

Editorial decision is made based on reviewers comments + editor's own examination of manuscript



Most scientists regarded the new streamlined peer-review process as 'quite an improvement.'

Common Mistakes to Avoid When Responding to Reviewer Comments

You Might Say:

The reviewer is not an expert in my field.

The Editor's Response:

The reviewer is likely someone you suggested.

You Might Say:

The reviewer misunderstood the point of the manuscript (or a specific result).

The Editor's Response:

If the reviewer did not understand the results or significance, you need to clarify the text or figures to present the work more clearly.

Common Mistakes to Avoid When Responding to Reviewer Comments

You Might Say:

The reviewer is wrong and does not deserve a response.

The Editor's Response:

This response does not explain how or why the reviewer is wrong. Even a comment with which you do not agree needs to be backed up by science.

You Might Say:

Similar papers have been published in this journal recently – why is my manuscript being picked apart?

The Editor's Response:

If your manuscript is similar to other recent work, it likely lacks novelty and may not meet the journal's standards.



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Revision and galley proof

- The manuscript is usually reviewed by 2-3 reviewers
- Reviewers point out deficiencies and/or suggestions to improve the scientific content
- Read their comments carefully. (If reviewer misunderstands a point, the point probably needs revision or additional support.)

-Do not blame the reviewer for his/her misunderstanding!

- Be polite and respectful when disagreeing a reviewer's comment
- Include a point-by-point explanation of changes made in the text in response to reviewers' comments

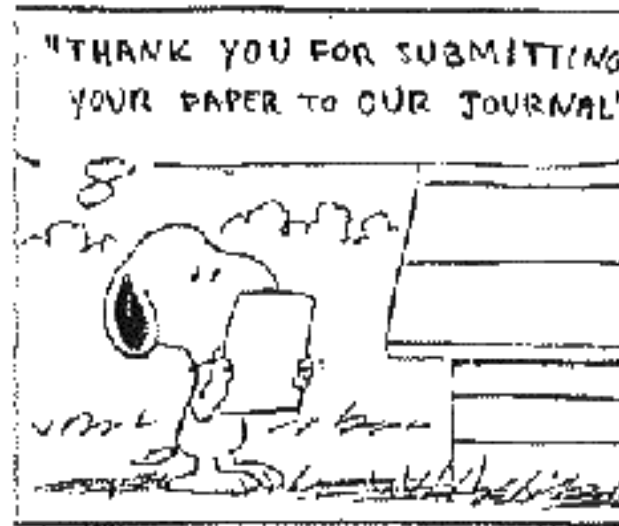


• Carefully read the paper for its accuracy in presenting

and version

• Before publication you should receive the galley proof
This is one last chance to make any final corrections.

Well, most of the time the decisions are different



Decision on Manuscript ID nl-2013-039983

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Dear

We would like to thank you for your submission with care, and we regret to inform you that we have not accepted this instance.

Thank you for submitting your manuscript.

With kind regards,

Dr. Yi Cui
Associate Editor



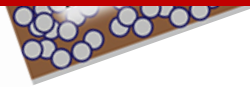
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Over 500 citations in three years
3rd Most Cited JACS Paper in 2014

Valerie C. Conley et al.

Several recent studies have rapidly increased the interest in perovskites to the fore as a promising material for inexpensive, high-efficiency photovoltaic cells. Perovskites, a class of superconductive materials with the same crystal structure as calcium titanium oxide



Published later in JACS
Christians, J. A.; Fung, R.; Kamat, P. V., An Inorganic Hole Conductor for Organo-Lead Halide Perovskite Solar Cells. Improved Hole Conductivity with Copper Iodide. J. Am. Chem. Soc., 2014, 136, 758–



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Allen J. Bard, Editor

August 5, 1988

Dr. Prashant V. Kamat
Radiation Laboratory
University of Notre Dame
Notre Dame, IN 46556

Ms. No.: JA882005L-50-1-100
Authors: Kamat*, ..., Dimitrijevic
Title: "Primary Photochemical Events in CdS..."

Dear Prashant:

I received the paper you submitted to JACS and upon reading it, I think it would be more suitable for a specialized journal, such as J. Phys. Chem. The field of photoprocesses at semiconductors is now developed pretty extensively, and we've been sending most of our material, in this area, to J. Phys. Chem. or specialized journals; thus, we have sent your paper and a copy of your cover letter to Mostafa El-Sayed at J. Phys. Chem. You should receive an acknowledgement from them upon receipt of this package.

Sincerely,

Uptake and outcome of manuscripts in Nature journals by review model and author characteristics

Barbara McGillivray^{1,2} and Elisa De Ranieri³

Results

Author uptake for double-blind submissions was 12% (12,631 out of 106,373). We found a small but significant association between journal tier and review type (p value < 0.001 , Cramer's $V = 0.054$, $df = 2$). We had gender information for 50,533 corresponding authors and found no statistically significant difference in the distribution of peer review model between males and females (p value = 0.6179). We had 58,920 records with normalised institutions and a THE rank, and we found that corresponding authors from the less prestigious institutions are more likely to choose double-blind review (p value < 0.001 , $df = 2$, Cramer's $V = 0.106$). In the ten countries with the highest number of submissions, we found a large significant association between country and review type (p value < 0.001 , $df = 10$, Cramer's $V = 0.189$). The outcome both at first decision and post review is significantly more negative (i.e. a higher likelihood for rejection) for double-blind than single-blind papers (p value < 0.001 , $df = 1$, Cramer's $V = 0.112$ for first decision; p value < 0.001 ; $df = 1$, Cramer's $V = 0.082$ for post-review decision).

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6097313/>

What to do if a paper gets rejected.....

Do not get discouraged. Read the editorial comments and discuss with advisor/students/collaborators. Find out how you can make this study stronger and acceptable for publication.

Do not just turn around and submit the paper to another journal. Read carefully the comments and find ways to improve the scientific quality of the papers

Carry out additional experiments and improve the quality of scientific discussions. (Journals often look for papers with quantitative and mechanistic information that represent new physical insights)

Rejected papers can be resubmitted if and only the concerns of the reviewers are adequately addressed and new results are included.

If you have questions, please feel free to contact the editorial office.

<https://www.youtube.com/watch?v=-VRBWLpYCPY>

What to Avoid?

- Data without scientific discussion, applications of data, or literature review.
- Routine synthesis and characterization of nanomaterials or studies that report incremental advance are not considered suitable for publication.
- Use of the phrase “**Novel**” or “**First-time**” in the title or abstract. Such descriptions do not impress the reader or the reviewer.
(Other over used phrases “**One-pot synthesis**”, “**Facile**”)
- Names of flowers, fruits and vegetables to describe the nanoparticle/nanostructure shapes/morphology

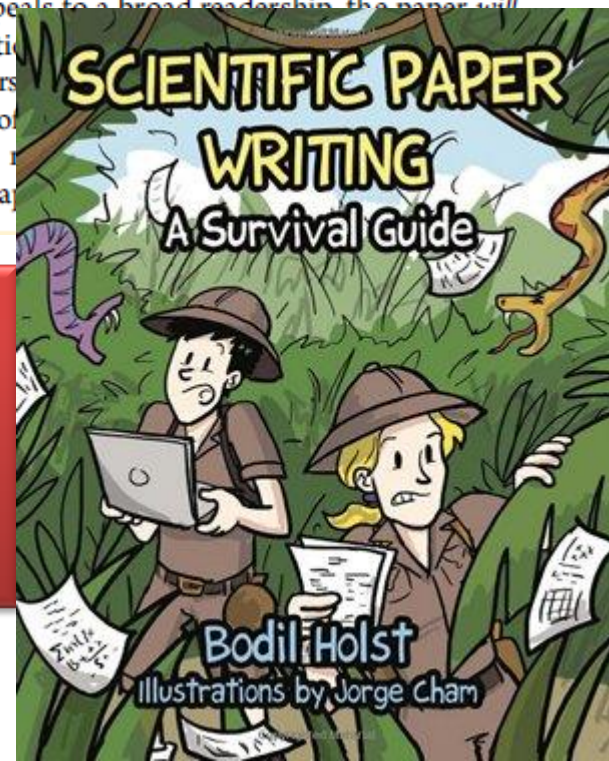
Mastering the Art of Scientific Publication

20 Papers with 20/20 Vision on Publishing

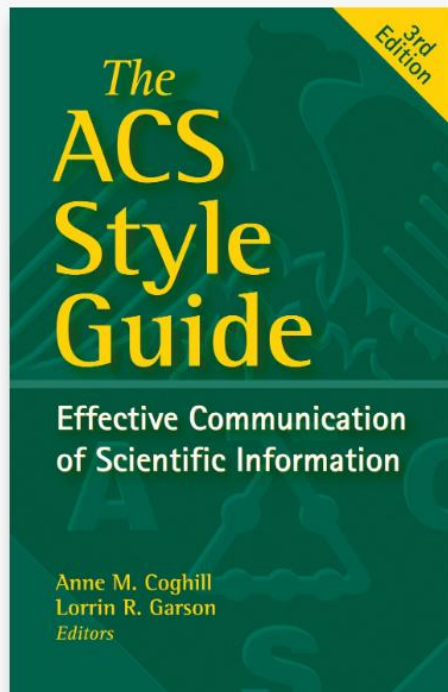
As new researchers generate their first results, they face the challenge of mastering the art of scientific publication in order to present their results and to draw attention to their new scientific findings. *Whether or not we want to describe science in such terms, scientific publishing is competitive in nature, and thus the younger scientists must vie with their more experienced peers for recognition.* While the electronic age has made the publication process easier and quicker, optimizing the structure of a

green, superior, etc.). If the authors can present a compelling scientific story that appeals to a broad readership, the paper will draw favorable attention. Ultimately, the readers' effective presentation of It is important to between a scientific pa

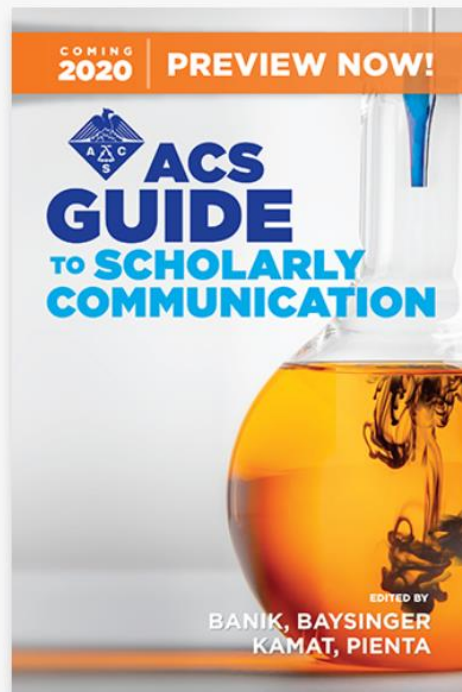
It is important to realize that a well-composed manuscript with a compelling scientific story that can appeal to the journal's readership sees a higher rate of success.



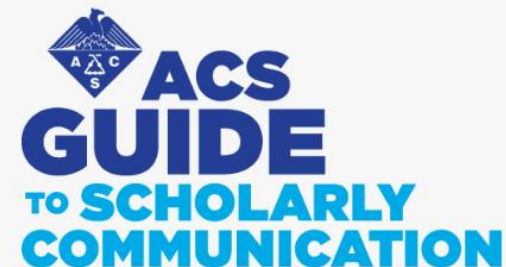
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 - \# \text{ times you cited yourself (nice try)} \\
 - \# \text{ times you were cited just to pad the introduction section} \\
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 \# \text{ original articles you've written} \\
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 + \# \text{ not-so-original articles you've } \del{\text{written}} \text{ copied and pasted}
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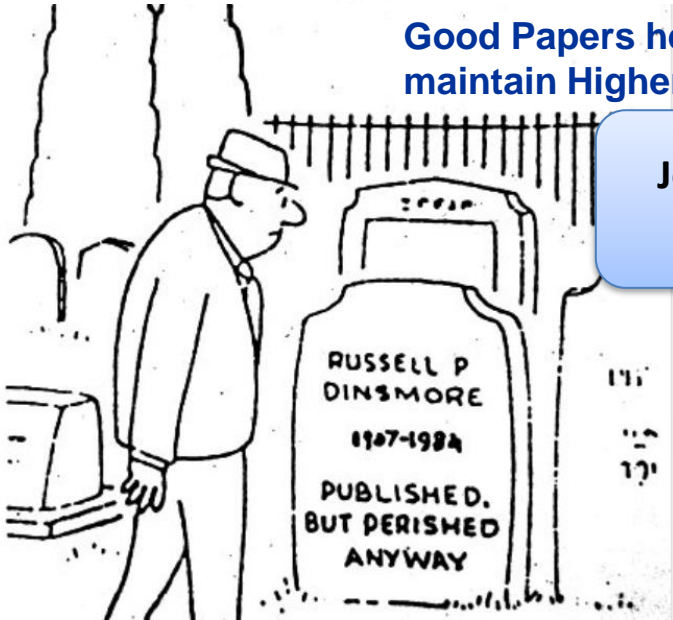
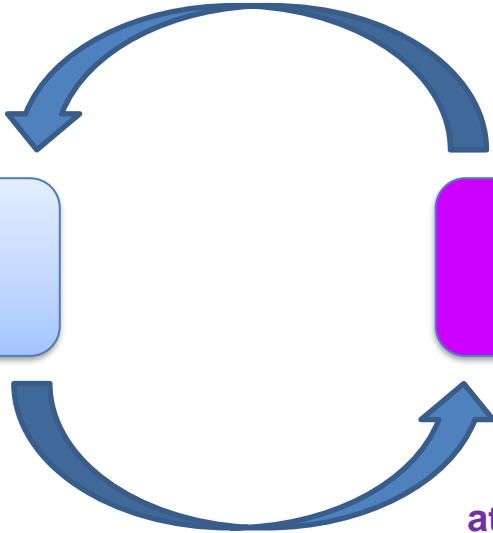


Good Papers help to maintain Higher JIF

Journal Impact Factor

Good Quality Papers

Higher Journal Impact Factor attracts good papers



Few Tips to Become a Successful Scientist

COURAGE: - Once you get your courage up and believe that you can do important problems, then you can. If you think you can't, almost surely you are not going to.

-Look for the positive side of things instead of the negative

PASSION: When an opportunity opens up, great scientists get after it and pursue the problem with all their might. They drop all other things.

DRIVE and COMMITMENT: -You observe that great scientists have tremendous drive. According to Edison, "Genius is 99% perspiration and 1% inspiration."

DISCIPLINE:- Follow dress code and work hours, -Be respectful and helpful,
-You should follow and cooperate rather than struggle against the system

PLANTING SEEDS: You can't always know exactly where to be, but you can keep active in places where something might happen. Most great scientists know many important problems and they look for the right moment for an attack.

EFFECTIVE COMMUNICATION: There are three things you have to do in selling. You have to learn to write clearly and well so that people will read it, you must learn to give reasonably formal talks, and you also must learn to give informal talks.

AGE: Age is another factor which one has to worry about. You have got to do it when you are young or you will never do it. (*Note: YOUNG is a relative term*)

(Highlights from the lecture of Richard W. Hamming at MRE on March 7, 1986)

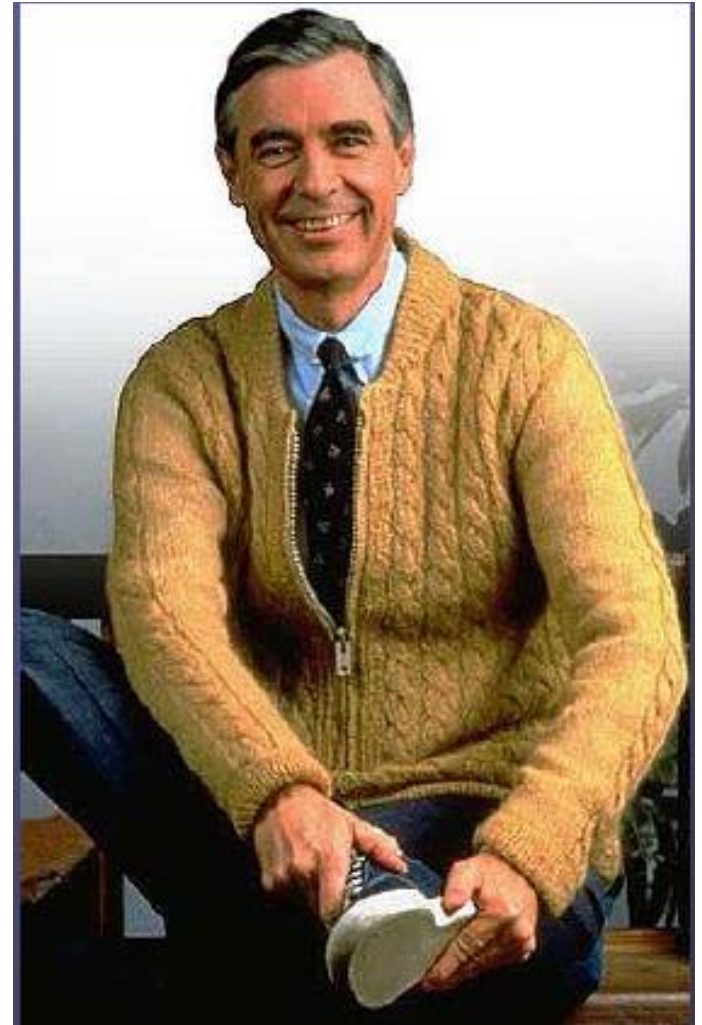
<http://www.cse.nd.edu/resources/hamming.html>

“It's not the honors and the prizes and the fancy outsides of life which ultimately nourish our souls.

It's the knowing that we can be trusted, that we never have to fear the truth, that the bedrock of our very being is good stuff.”

- Fred Rogers

**Commencement Address at
Middlebury College May, 2001**





Summary

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