

Workshop at All-Center Retreat  
Center for Environmental Implications of  
Nanotechnology Crowne Plaza, Ventura, CA  
September 28-29, 2013

# How to Get Published In Scientific & Engineering Journals

Dr. Jorge Gardea-Torresdey

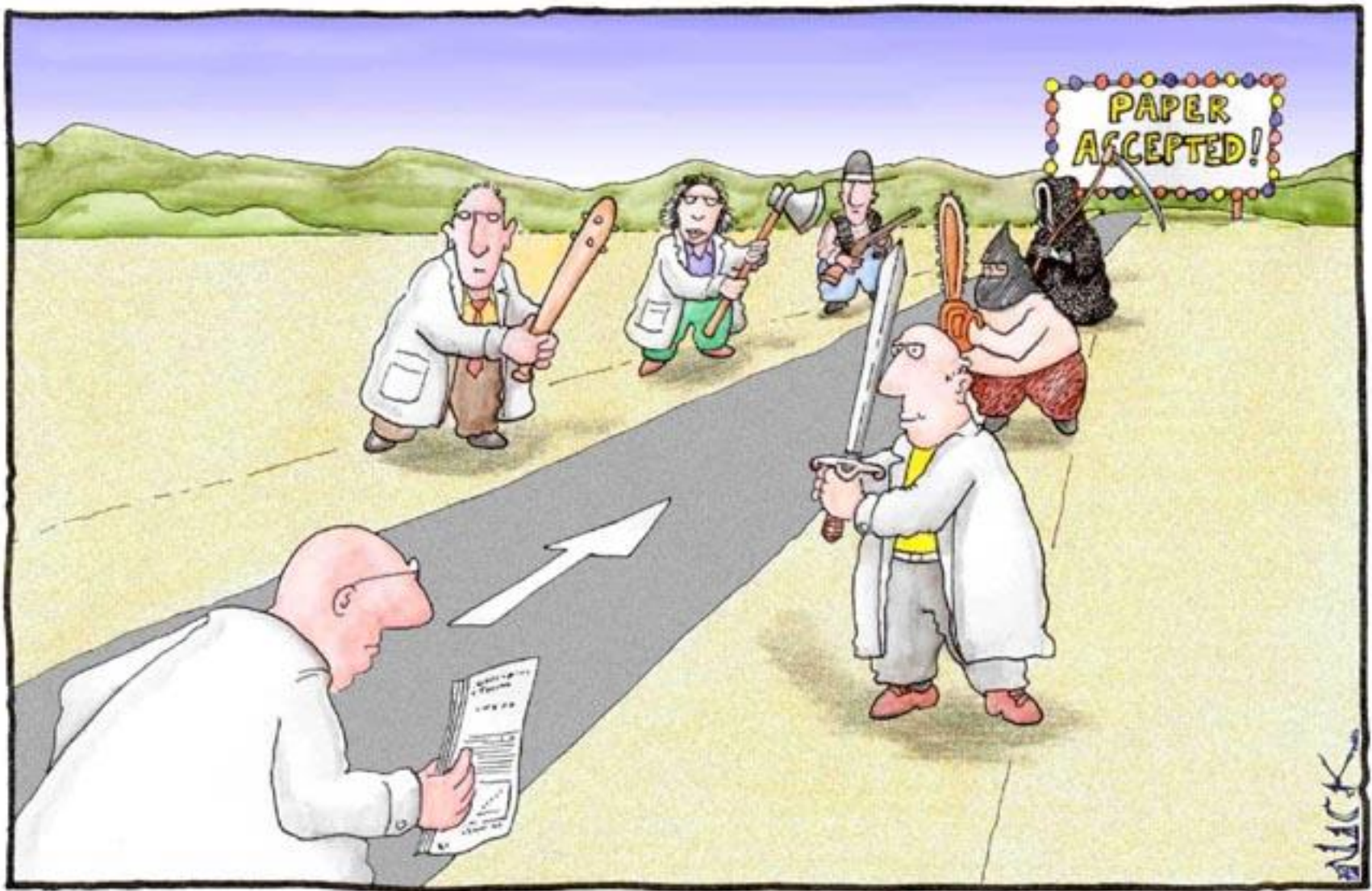
Associate Editor for North America of *Environmental Science & Technology*

*Ranked #1 in Environmental Science and Environmental Engineering*

Dudley Professor of Chemistry and Environmental Science & Engineering

The University of Texas at El Paso





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

# TERRIBLE PAPER

- Only three references
- References were from his own work



# Agenda

- Introduction
- Journal Statistics
- Impact Factor, H-Index
- Scientific Language – Overview, Using the proper Scientific Language
- Why is Language Important
- Structure of a Full Article
  - Journal Publishing Agreement & Ethical Guidelines
  - Title / Abstract /TOC Art
  - Introduction
  - Methods
  - Results
  - Discussion
  - Conclusion
  - Acknowledgment
  - References
- Revise before submission
- After Submission
- Summary
- Avoiding Plagiarism



# Why am I teaching a workshop on how to write?

My Passion (UCLA)

1985-Present, Editorial Board

Editor (2006-2010)

Journal of Hazardous Materials

ES&T

Associate Editor for The Americas (2011-Present)

2011, Impact Factor; 5.25

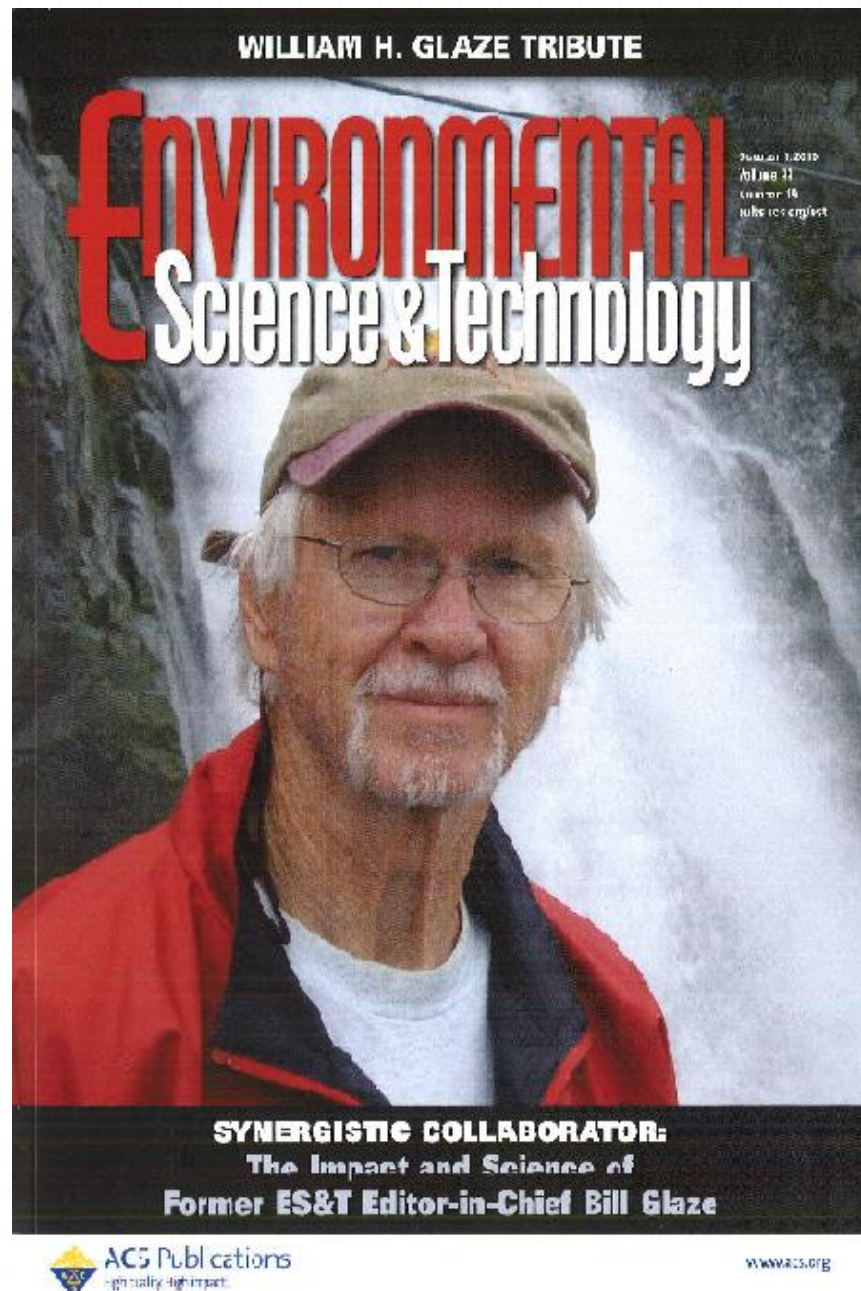
#1 in Environmental Sciences & Environmental Engineering



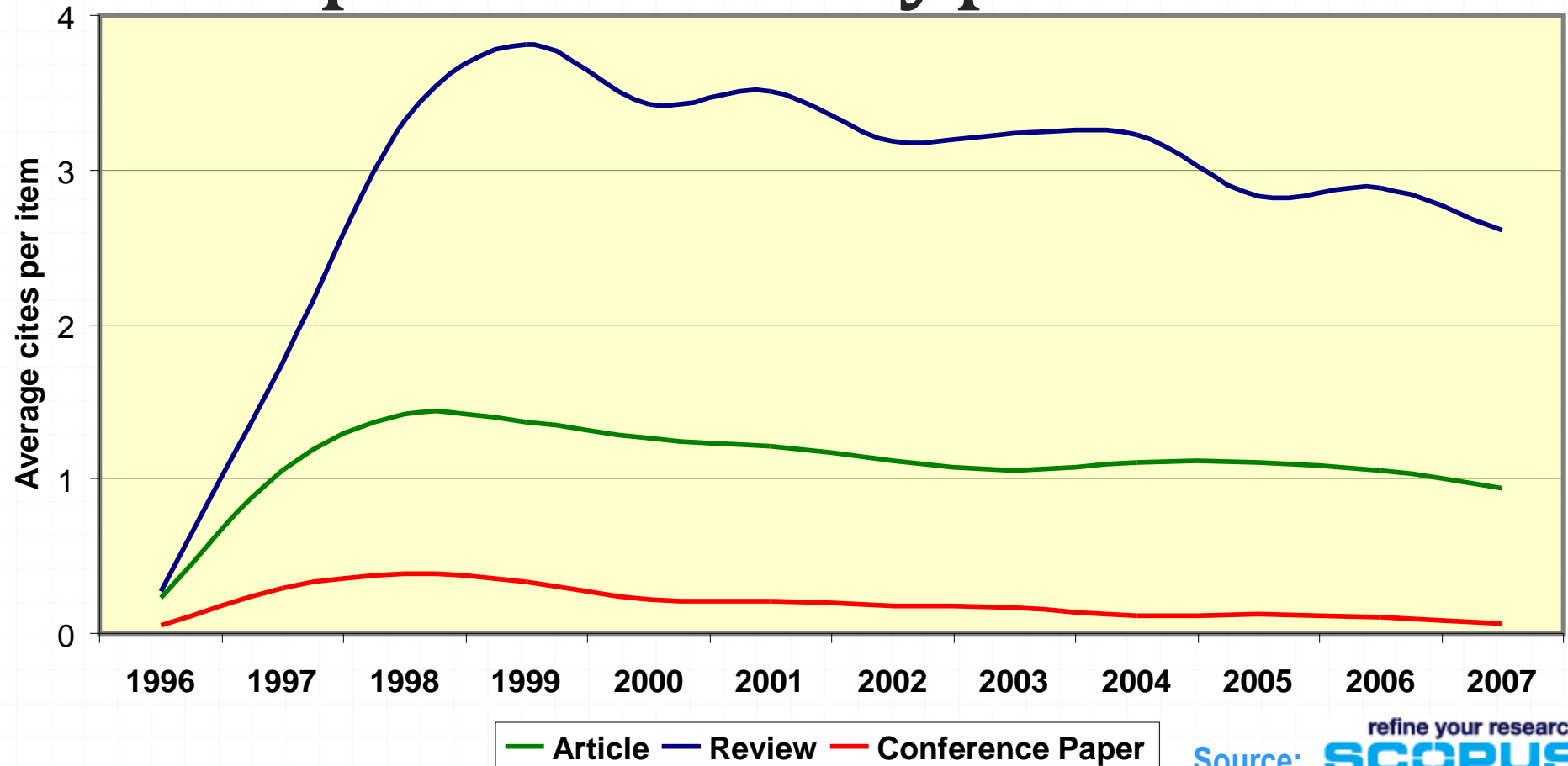
hing connect  
Partnering with the Research Community

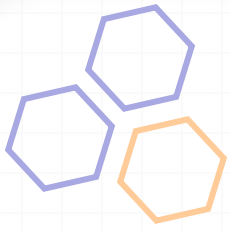
Dr. Jorge Gardea-Torresdey  
*Guest Editor, ES&T*  
*August 15, 2010 Issue*

**Editorial Assistant:** Margarita  
Medina, mmedina3@utep.edu



# Citation impact varies by publication type





- **What is the H-Index?**
- **It is your Scientific Impact!!!**





# H-Factor/Index

- The ***h-index*** is an index that attempts to measure both the productivity and impact of the published work of a scientist or scholar. The index is based on the set of the scientist's most cited papers and the number of citations that they have received in other publications. The index can also be applied to the productivity and impact of a group of scientists, such as a department or university or country, as well as a scholarly journal. The index was suggested by Jorge E. Hirsch, a physicist at UCSD, as a tool for determining theoretical physicists' relative quality and is sometimes called the *Hirsch index* or *Hirsch number*. (<http://en.wikipedia.org/wiki/H-index>)
- H Factor of 10; means you have published 10 papers that have been cited more than 10 times.

# Examples of H-Indexes of Nobel Laureates

## 1. Prof. Richard F. Heck

Nobel Prize in Chemistry (Year 2010); "for palladium-catalyzed cross couplings in organic synthesis"

University of Delaware, USA

h-index: 56

## 2. Prof. Suzuki Akira

Nobel Prize in Chemistry (Year 2010); "for palladium-catalyzed cross couplings in organic synthesis"

Hokkaido University, Sapporo, Japan

h-index: 38

## 3. Prof. Ei-ichi Negishi

Nobel Prize in Chemistry (Year 2010); "for palladium-catalyzed cross couplings in organic synthesis"

Professor at Purdue University, West Lafayette, IN, USA

h-index: 66

# Examples of H-Indexes of Nobel Laureates

## 1. **Prof. Robert Joseph Lefkowitz :**

Nobel Prize in Chemistry (Year 2012); "for studies of G-protein-coupled receptors"

Duke University.

h-index: 68

## 2. **Prof. Brian K. Kobilka:**

Nobel Prize in Chemistry (Year 2012); "for studies of G-protein-coupled receptors"

Stanford University

h-index: 45

## 3. **Prof. Dan Shechtman**

Nobel Prize in Chemistry (Year 2011); "for the discovery of quasicrystals"

Israel Institute of Technology

h-index :22

# Full Article

- Standard for disseminating completed research findings
  - Typically 8-10 pages, 5 figures, 25 references (current)
  - Draft and submit the paper to appropriate journal
  - Good way to build a scientific research career
- “Publish or Perish”*

## Sample full article titles:

- “Evidence of the Differential Biotransformation and Genotoxicity of ZnO and CeO<sub>2</sub> Nanoparticles on Soybean (*Glycine max*) Plants ”
- “Determination of arsenic(III) and arsenic(V) binding to microwave assisted hydrothermal synthetically prepared Fe<sub>3</sub>O<sub>4</sub>, Mn<sub>3</sub>O<sub>4</sub>, and MnFe<sub>2</sub>O<sub>4</sub> nanoadsorbents”
- “Effect of mercury and gold on growth, nutrient uptake, and anatomical changes in *Chilopsis linearis*”



# Choose the target journal

- Choose one journal—DO NOT PLAY GAMES!
- Your references can provide candidate journals
- Read recent publications in your field
- Find out specific journal details

“Hi \_\_\_\_-

As I mentioned to you over the phone, I fear we might have a problem with the simultaneous submissions of manuscripts to Journal 1 and Journal 2. One of the reviewers (anonymity preserved) of the Journal 1 paper noted that the work was overly similar to a paper submitted to Journal 2 and reviewed by him. Based on the examination of the abstract, **IDO** think there is a potential problem. Since this may involve journal sanctions, I am bringing the Editor-in-Chief and his office into the loop as well. Thanks for the cooperation and my apologies for bringing this matter to your attention. It is amazing how much time such matters consume!”

EXAMPLES OF REAL LIFE CASES

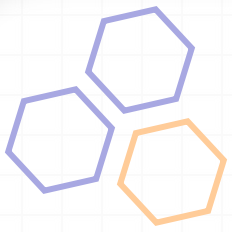
# Choose the target journal

- Beware of **Sensational Invitations**: Publishers and editors rarely solicit papers from authors, and usually only as an invitation for review articles.
- Example: Online Journals



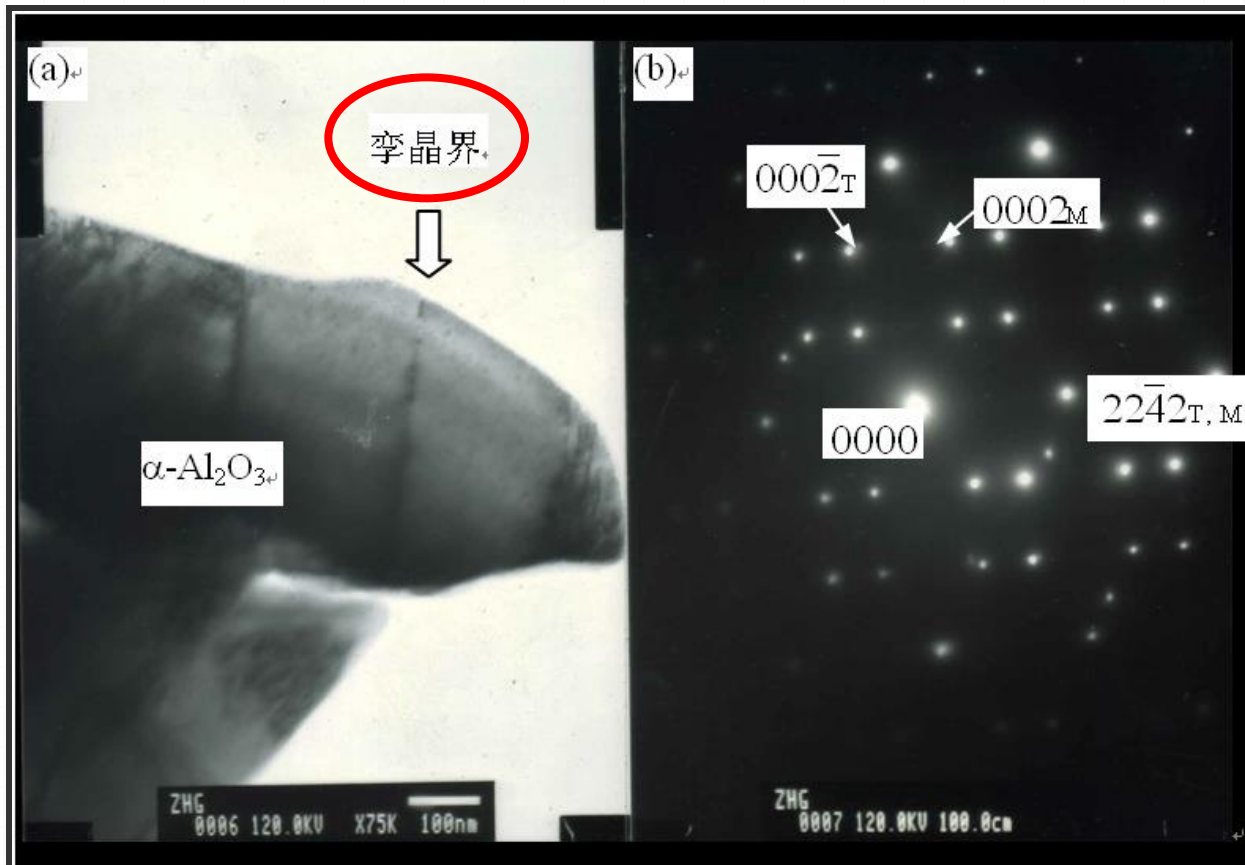
How can I ensure I am  
using proper scientific  
language?





# Language

You should use English throughout the manuscript, including figures



**What are some characteristics  
of the best scientific writing  
you have seen?**

# Why Is Language Important?

Save your editor and reviewers the trouble of guessing what you mean

## Complaint from an editor:

“[This] paper fell well below my threshold. I refuse to spend time trying to understand what the author is trying to say. Besides, I really want to send a message that they can't submit garbage to us and expect us to fix it. My rule of thumb is that if there are more than 6 grammatical errors in the abstract, then I don't waste my time carefully reading the rest.”

# Do Publishers Correct Language?

- Yes...

- Publishers often provide resources for authors who are less familiar with the conventions of international journals
- Some publishers may perform technical screening prior to peer review

- But...

- It is the author's responsibility to use proper language prior to submission
- Full copyediting is only done after an article is accepted



# Galley Proofs

Edit Trace of Manuscript 10.1021/es903891g

Evidence of the differential biotransformation Differential  
Biotransformation and genotoxicity Genotoxicity of ZnO and CeO<sub>2</sub>  
nanoparticles Nanoparticles on soybean Soybean (*Glycine max*)  
plants Plants

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Hernández-Viezas Hernández-Viezas,<sup>†</sup> Hiram Castillo-Michel,<sup>§</sup> Cristian E. Botez,<sup>†</sup> José R.  
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William Glaze Tribute

Concern and interest related to the effects of nanomaterials on living organisms are growing in both the scientific and public communities. Reports have described the toxicity of nanoparticles (NPs) on micro- and macro-organisms, including some plant species. Nevertheless, to the authors' knowledge there are no reports on the biotransformation of NPs

# Journal Publishing Agreement and Ethical Guidelines

- The **ACS Journal Publishing Agreement is a legal document** that must be submitted through ACS Paragon Plus during the manuscript submission process or provided directly to the editorial office. A properly completed and signed Journal Publishing Agreement must be submitted for each manuscript.
- The Editors of journals published by the American Chemical Society provide a set of ethical guidelines for persons engaged in the publication of chemical research, specifically, for editors, authors, and manuscript reviewers. These guidelines were developed by the Editors of the journals published by the Publications Division of the ACS and are reviewed regularly to ensure their clarity. The ACS Journals' Ethical Guidelines are offered from a conviction that the observance of high ethical standards is so vital to the whole scientific enterprise that a definition of those standards should be brought to the attention of all concerned.

How do I build up my  
article properly?

# General structure of a Full Article

## Each section of a paper has a definite purpose

- Title
  - Abstract
  - Keywords
- 

**Make them easy for indexing and searching!  
(informative, attractive, effective)**

- Main text (IMRAD)
    - Introduction
    - Methods
    - Results
    - And
    - Discussions
- 

**Journal space is precious. Make your article as brief as possible.**

- Conclusion
- Acknowledgement
- References
- Supporting Materials



# General Structure of a Full Article

Each section of a paper has a definite purpose

- ✗ Title
- ✗ Abstract
- ✗ Keywords

---

## ✗ Main text (IMRAD)

- + Introduction
- + Methods
- + Results
- + And
- + Discussions

---

## ✗ Conclusion

- ✗ Acknowledgement
- ✗ References
- ✗ Supporting Materials

The progression of the thematic scope of a paper:

**general → particular → general**

However, we often write in the following order:

- Figures and tables
- Methods, Results and Discussion
- Conclusions and Introduction
- Abstract and title

# Title

## Tell readers what your paper is all about

- Attract the reader's attention
- Be specific
- Keep it informative and concise
- Avoid jargon and abbreviations



"I need an interpreter. Send in someone who speaks jargon."

# Title: Examples

Original Title	Revised	Remarks
Preliminary observations on the effect of Zn element on anticorrosion of zinc plating layer	Effect of Zn on anticorrosion of zinc plating layer	<u>Long title</u> distracts readers. Remove all <u>redundancies</u> such as “observations on”, “the nature of”, etc.
Action of antibiotics on bacteria	Inhibition of growth of mycobacterium tuberculosis by streptomycin	Titles should be <u>specific</u> . Think to yourself: “How will I search for this piece of information?” when you design the title.
Fabrication of carbon/CdS coaxial nanofibers displaying optical and electrical properties via electrospinning carbon	Electrospinning of carbon/CdS coaxial nanofibers with optical and electrical properties	“English needs help. The title is nonsense. All materials have properties of all varieties. You could examine my hair for its electrical and optical properties! You <b>MUST</b> be specific. I haven’t read the paper but I suspect there is something special about these properties, otherwise why would you be reporting them?” – <i>the Editor-in-chief</i>

# Abstract

- Tell readers what you did and the important findings
- One paragraph (between 150-200 words)
- Advertisement for your article
- A clear abstract will strongly influence if your work is considered further

The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, references should be avoided, but if essential, they must be cited in full, without reference to the reference list. Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

# Abstract

Tell readers what you did and the important findings

We tackle the general linear instantaneous model (possibly underdetermined and noisy) where we model the source prior with a Student  $t$  distribution. The conjugate-exponential characterisation of the  $t$  distribution as an infinite mixture of scaled Gaussians enables us to do efficient inference. We study two well-known inference methods, Gibbs sampler and variational Bayes for Bayesian source separation. We derive both techniques as local message passing algorithms to highlight their algorithmic similarities and to contrast their different convergence characteristics and computational requirements.

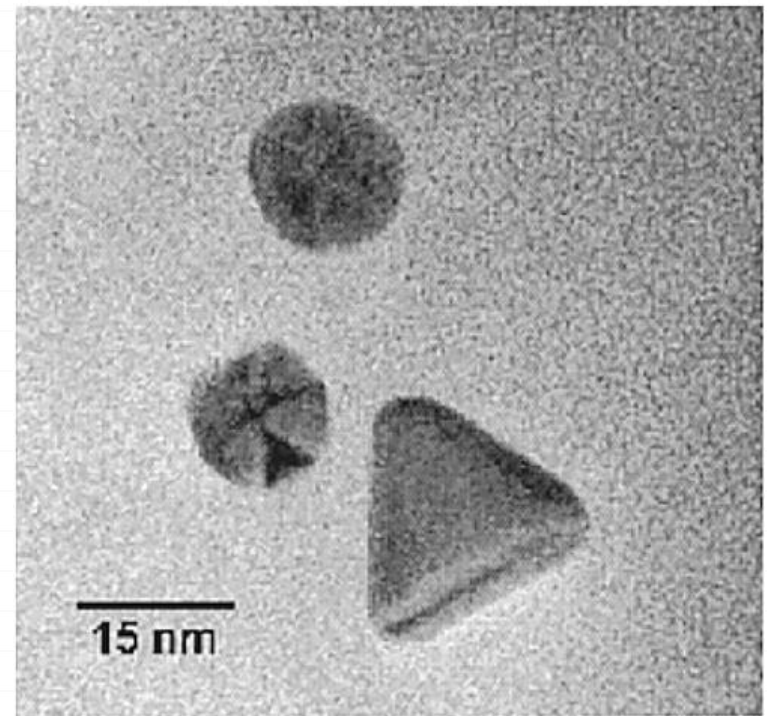
Our simulation results suggest that typical posterior distributions in source separation have multiple local maxima. Therefore we propose a hybrid approach where we explore the state space with a Gibbs sampler and then switch to a deterministic algorithm. This approach seems to be able to combine the speed of the variational approach with the robustness of the Gibbs sampler.

What has been done

What are the main findings

# Table of Contents (TOC) Art

TOC Art, which accompanies the abstract, is mandatory for Articles, Policy Analyses, Critical Reviews, and Features. TOC Art must accompany the manuscript at submission. This graphic should be illustrative or photographic, and not an exact copy of one of the manuscript figures. TOC Art may be thought as a “visual abstract.” TOC Art *will not* be accepted for Viewpoints, Correspondence, Letters to the Editor, nor Errata.





# Introduction

Provide context to convince readers that you clearly know why your work is useful

- Be brief
- Clearly address the following:
  - What is the problem?
  - Are there any existing solutions?
  - Which solution is the best?
  - What is its main limitation?
  - What do you hope to achieve?
- Try to be consistent with the nature of the journal

# Introduction: steps 1-4

1. General Statement
2. Cite the work that has been done related to the topic
3. What is missing? Why your research is new and novel?

For example: “To our knowledge no work has been reported on ....”

4. What you did. Summary of your study and the work performed.

For example: “Herein we present the study of ...”

# Getting the Introduction Right— An Example in Following Steps 1-4

- **Taken from:** “Evidence of the differential biotransformation and genotoxicity of ZnO and CeO<sub>2</sub> nanoparticles on soybean (*Glycine max*) plants” *Environ. Sci. Technol.* **2010**, *44*, 7315-7320
- **Authors:** Martha L. Lopez-Moreno, Guadalupe de la Rosa, Jose A. Hernandez-Viezcas, Hiram Castillo-Michel, Cristian E. Botez, Jose R. Peralta-Videa, and Jorge L. Gardea-Torresdey
- **Institutions:** Chemistry Department, Physics Department, and Environmental Sciences and Engineering Ph. D. Program, The University of Texas at El Paso, 500 West University Avenue, El Paso, Texas 79968, Departamento de Ingenieria Quimica, Universidad de Guanajuato, Col. N. Alta s/n, Guanajuato, Gto., 36050, and Department of Chemistry, University of Puerto Rico at Mayaguez, Mayaguez, Puerto Rico 00681

# 1. General Statement

“Nanotechnology has emerged as an innovative technology for the elaboration and use of new nanomaterials (NM) in industry and many fields of research (1). The wide range of NM application represents a challenge for researchers and government agencies, alike, who deal not only with scarce information about the fate and transport of NMs in the environment but also with uncertainties about probable health hazards to living organisms (2, 3). Of particular importance is the knowledge related to the plant response to NM impacts, due mainly to their role of preserving environmental equilibrium as well as their importance as a food source.”

## 2. Citation of Related Work

“Defense mechanisms activated in biological organisms under stress are analyzed through different analytical techniques. For instance, reduction and complexation of toxic ionic forms are known as types of attenuation form heavy metals stress. This sort of element modification is studied by using X-ray absorption spectroscopy (XAS), which gives information about speciation and coordination environment of metals within tissues (4). Heavy metal toxicity can also be detected by analyzing DNA alterations by molecular biology techniques such as the random amplified polymorphic DNA (RAPD) (5). Through this technique, random segments of genomic DNA are amplified by different primers of nucleotide sequence. These primers create new amplicons of different lengths which are separated by gel electrophoresis obtaining the DNA fingerprint (6).”

### 3. Finding Something New and Novel

“Soybean (*Glycine max*) is one of the major crops grown worldwide for human consumption. This plant is also an important precursor in the elaboration of several biomaterials and biodiesel (7). Because of its high biomass production and easy cultivation, soybean has been studied as a potential metal accumulator (8, 9). The absorption of metals by plants depends on several factors, including the element’s availability and uptake and the storage capacity of plants (8). Soybean has shown physiological responses to different sources of nutritional elements. Bernal et al. (10) studied the effects of Cu on Zn and Fe uptake as well as photosynthetic activity of soybean leaves. These researchers reported that soybean plants showed different signs of toxicity depending on the source of Cu. Engineered NMs may be a potential source for metal release that can eventually be made available for uptake by biological systems (11). In addition, to the authors’ knowledge, there is no information about the speciation and biotransformation of these nanomaterials within soybean tissues.”



## 4. What You Did—Summarizing Your Work

“The aims of this study were to determine the biotransformation of ZnO and CeO<sub>2</sub> nanoparticles (NPs) on soybean plants, their impact on DNA stability, and the effects on germination and seedling growth. Data about metal concentration and oxidation state in tissues were obtained using inductively couple plasma-optical emission spectroscopy (ICP-OES) and X-ray absorption spectroscopy (XAS), respectively. DNA isolation was performed using the Wizard Genomic DNA extraction kit (Promega A1120). DNA yield was determined using the Nanodrop spectrophotometer for quantification of double stranded DNA. Results from this research will contribute to the enrichment of knowledge pertaining to the interactions of some nanomaterials with living plants.”

# Methodology

**NP Characterization.** ZnO and CeO<sub>2</sub> NPs were purchased from Meliorum Technologies (Rochester, NY). X-ray diffraction (XRD) analysis showed an impurity phase in the ZnO NPs...

**Preparation of ZnO and CeO<sub>2</sub> Suspensions.** Suspensions of ZnO and CeO<sub>2</sub> NPs were prepared at 0 (control), 500, 1000, 2000, and 4000 mg L<sup>-1</sup> using Millipore water (MPW)...

**Quantification of Zn and Ce in Dry Plant Tissues.** Samples were digested in a microwave acceleration reaction system (CEM Corp.; Mathews, NC) following the USEPA 3051 method...

**Genomic DNA Isolation.** For DNA isolation, seeds were treated with 2000 and 4000 mg L<sup>-1</sup> of either ZnO or CeO<sub>2</sub> NPs...

# Results

What have you found?

- Present essential/primary results
- Use sub-headings
- Use figures/illustrations
  - Tables
  - Graphs
  - Photos



# Results & Discussion

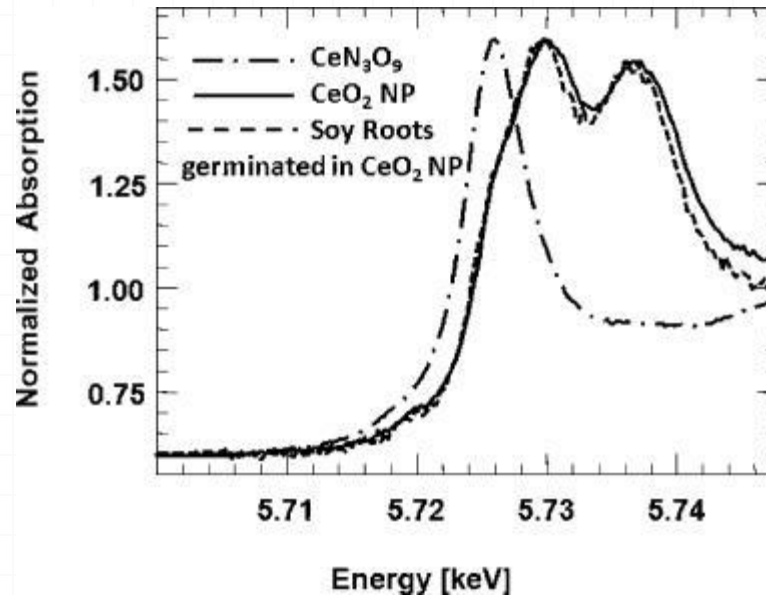
## What the results mean

- Results and Discussion are the most important sections
- Make the Discussion correspond to the Results
- You need to compare the published results with yours

# Results & Discussion

**Speciation of Zn and Ce in Root Tissues.** As seen in Figure 3, a distinctive double white line feature at 5.730 and 5.737 KeV is present in the spectrum of CeO<sub>2</sub> NPs (used as model compound), corresponding to a typical mixture of two ground-state electronic configurations of Ce (4f<sup>0</sup> and 4f<sup>1</sup>) (26). In addition, CeN<sub>3</sub>O<sub>9</sub> was also used as a model compound revealing the oxidation state of (III). The CeLIII-edge normalized XANES spectrum revealed that soybean roots uptake and store CeO<sub>2</sub> NPs. Ce was found in the same oxidation state (IV) inside roots, as in the CeO<sub>2</sub> NPs. To the best of the authors' knowledge, this is the first report on the presence of CeO<sub>2</sub> NPs in the roots of higher plants, using XAS technique. Hoecke et al. (25) reported the toxicity effects of three sizes of CeO<sub>2</sub> NP on *Pseudokirchneriella subcapitata*, *Daphnia magna* and *Thamnocephalus platyurus*, and *Danio rerio*. These researchers reported a differential response to NP toxicity in aquatic organisms from varied trophic levels. Some of the parameters studied by these researchers were growth inhibition, reproduction, and mortality. They found that chronic toxicity was greater from smaller CeO<sub>2</sub> NPs; however, they did not determine the form of CeO<sub>2</sub> NP within tissues.

# Results & Discussion



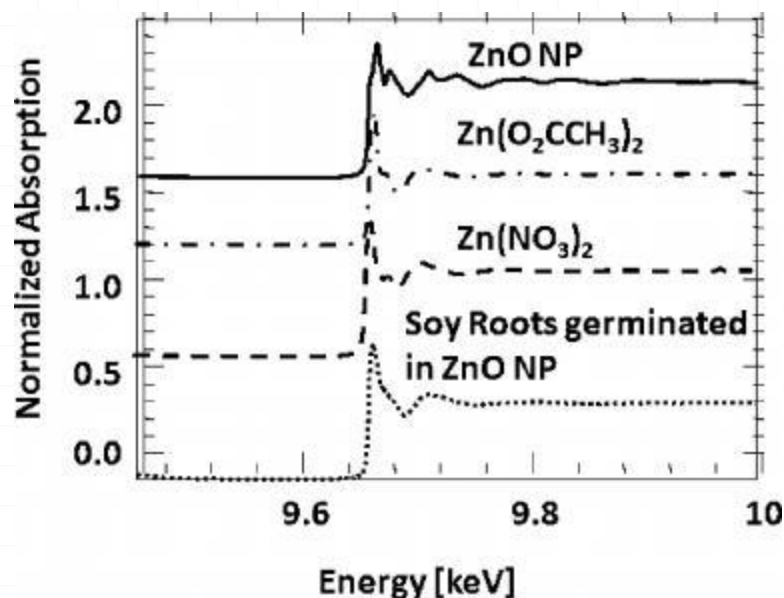
**FIGURE 3.** XANES LIII-edge spectra (5723 eV) of  $\text{CeO}_2$  NPs,  $\text{CeN}_3\text{O}_9$  model compounds, and spectra from soybean roots germinated in 4000 mg/L of  $\text{CeO}_2$  NPs.



# Results & Discussion

Figure 4 shows the XANES spectra from the K-edge energy for Zn ( $E_0=9659$  eV). ZnO NP powder, Zn-acetate, and Zn-nitrate were used as model compounds. The XANES spectra from roots treated with 4000 mg ZnO NP L-1 showed that within tissues Zn was in the oxidation state of Zn(II) but not present as ZnO NPs. Zn appeared coordinated in the same manner as Zn-nitrate or Zn-acetate (Figure 4). Reports indicate that within plants Zn has been found as Zn-hydroxides and  $Zn^{2+}$  (27). Another report suggested the presence of ZnO NPs, based on TEM micrographs of ryegrass cross sections (*Lolium perenne*) (6); however, analytical evidence of this assumption was not provided.

# Result & Discussion



**FIGURE 4.** XANES K-edge spectra (9659 eV) of ZnO NPs, Zn (NO<sub>3</sub>)<sub>2</sub>, and Zn (O<sub>2</sub>CCH<sub>3</sub>)<sub>2</sub> model compounds and spectra from soybean roots germinated in 4000 mg/L of ZnO NPs.

# Conclusion (optional)

How the work advances the field from the present state of knowledge

- Should be clear
- Justify your work in the scientific field
- Suggest future experiments

# Conclusion

How the work advances the field from the present state of knowledge

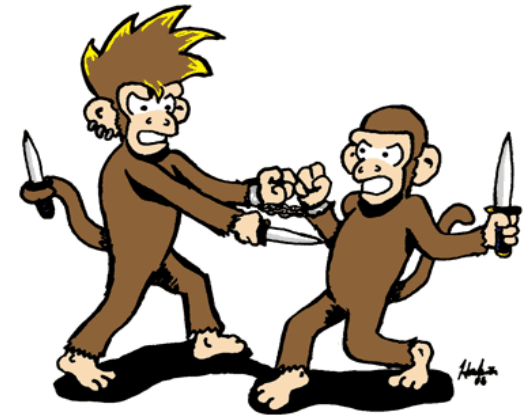
“RAPD has shown that both ZnO and CeO<sub>2</sub> NPs do affect the integrity of the DNA, but CeO<sub>2</sub> NPs caused the highest effect on the genetic stability of soybean plants.”

# Acknowledgments

Ensures those who helped in the research are recognised

Include individuals who have assisted with your study, including:

- Advisors
- Financial supporters
- Proof-readers
- Typists
- Suppliers who may have given materials
- BIG PROBLEM: Make sure that all co-authors are listed and acknowledged on the title page, and/or in the acknowledgements



# References

Cite the main scientific publications on which your work is based

- Do not use too many references
- Avoid excessive self-citations
- Avoid excessive citations of publications from the same region
- Conform strictly to the style given in the Guide for Authors

# References

This list is meant as a style guideline/template, but for clarification, please refer to *The ACS Style Guide, 3rd ed., 2006.*

## *Journal article*

Travis, E. R.; Hannink, N. K.; van der Gast, C. J.; Thompson, I. P.; Rosser, S. J.; Bruce, N. C. Impact of transgenic tobacco on trinitrotoluene (TNT) contaminated soil community. *Environ. Sci. Technol.* **2007**, *41* (16), 5854–5861; DOI 10.1021/es070507a.

## *Book with author*

Criss, R. E. *Principles of Stable Isotope Distribution*; Oxford University Press: Oxford, U.K., 1999.

## *Book with editors*

Coghill, A. M., Garson, L. R., Eds. *The ACS Style Guide, 3rd, ed.*; Oxford University Press: New York, 2006.

## *Chapter in edited book*

Snape, I.; et al. Contamination, regulation, and remediation: an introduction to bioremediation of petroleum hydrocarbons in cold regions. In *Bioremediation of Petroleum Hydrocarbons in Cold Regions*; Filler, D. M., Snape, I., Barnes, D. L., Eds.; Cambridge University Press: New York 2008; pp 1–37.

## *Thesis*

Masson, J.-F. Surface plasmon resonance sensors for biochemical and chemical monitoring. Ph.D. Dissertation, Arizona State University, Tempe, AZ, 2005.

*Institutional report (e.g. U.S. or international government; private institution)*  
*Biofuels: DOE lacks a strategic approach to coordinate increasing production with infrastructure development and special needs; Highlights of GAO-07-713*; United States Government Accountability Office: Washington, DC, 2007;

[www.gao.gov/new.items/d07713.pdf](http://www.gao.gov/new.items/d07713.pdf).



# References

## *Law*

Energy independence and security act of 2007. Public Law 110-140, 2007;  
[http://frwebgate.access.gpo.gov/cgi-bin/  
getdoc.cgi?dbname=110\\_cong\\_public\\_law&docid=f:publ140.110.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_law&docid=f:publ140.110.pdf).

## *Legal decision*

*State of New Jersey v. EPA, No. 05-1097 (D.C. Cir. Feb 8, 2008).*

## *Website homepage*

*Environmental Science & Technology Website;*  
<http://pubs.acs.org/journals/esthag/index.html>.

## *Webpage within a large site*

Tracking the millennium goals map;  
[www.mdgmonitor.org/map.cfm?goal=6&indicator=0&cd](http://www.mdgmonitor.org/map.cfm?goal=6&indicator=0&cd).

*For references to journal articles an issue number after volume number is helpful but not mandatory. DOI numbers are also helpful but not mandatory unless that is the only identifying information for an article in press or published online (e.g. ASAP).*

# Revision

## Revise before submission

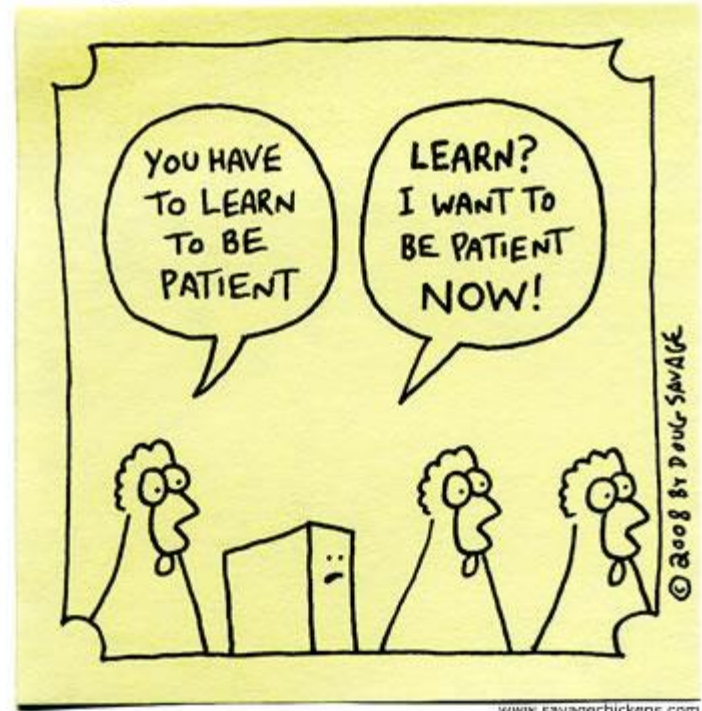
- Review the manuscript as thoroughly as possible before submission
- Ask colleagues and supervisors to review your manuscript
- Finally, SUBMIT your manuscript and await a response...

# After Submission

- Refereeing speed varies tremendously between journals
- The Editor will decide to “Accept”, “Accept with Revision (Minor or Major)”, or “Reject” the manuscript
- **BE PATIENT**—do not bother the editor

*Savage Chickens*

by Doug Savage



www.savagechickens.com

# Author

- Dear Dr. Gardea-Torresdey,

In a couple of weeks I shall finish my PhD and I am required to publish my dissertation. In order to comply with the ACS copyright policy I would like to include the correct citation of the submitted manuscript into my dissertation. I hope you can arrive at a decision soon.

What a job... I have... I already have my  
PhD I don't need one more



# Reviewer Rejects Manuscript

- To this reviewer, the chemical conversion of fly ash to zeolite is not a brand new idea, even using the hydrothermal method, since significant amount of publications has been reported the similar process. (Journal of Chemical Technology and Biotechnology, 77, 280-286, 2002; J Environ Sci Health A Tox Hazard Subst Environ Eng. 40, 1627-36. 2005; Journal of Materials Science, 28, 4781-4786, 1993). However, the authors fail to introduce the current status of both of the methods and the uniqueness of the methods employed in this manuscript becomes blurred.





# Summary:

## How do I build up my article properly?

- Title
- Abstract
- Keywords
- Main text (IMRAD)
  - Introduction
  - Methods
  - Results
  - And
  - Discussions
- Conclusion
- Acknowledgement
- References
- Supporting Materials

- **Structure your article properly**
- **Make sure each section of the paper fulfills its purpose clearly and concisely**

# Plagiarism

- Plagiarism is not an accepted practice by Journal; do not plagiarize papers!
- “Plagiarism means writing facts, quotations, or opinions that you got from someone else without identifying your source; or using someone else’s words without putting quotation marks around them” (Silverman 86).
- “You will discover that it is amazingly easy to borrow too much language from a source as you paraphrase. Do not allow this to happen. You are guilty of plagiarism if you half-copy the author’s sentences – either by mixing the author’s well-chosen phrases with your own without quotation marks or by plugging your synonyms into the author’s sentence structure” (Hacker 258).
- “Three different acts are considered plagiarism: (1) failing to cite quotations and borrowed ideas, (2) failing to enclose borrowed language in quotation marks, and (3) failing to put summaries and paraphrases in your own words” (Hacker 261).

Silverman, Jay, Elaine Hughes, and Diana Roberts Wienbroer. Rules of Thumb: A Guide for Writers. 3<sup>rd</sup> ed. New York: McGraw-Hill, 1996.

Hacker, Diana. A Writer’s Reference. 3<sup>rd</sup> ed. Boston: Bedford Books, 1995.

# Plagiarism

There have been multiple instances of direct plagiarism of others' papers. Depending on the circumstances author(s) are banned or warned. This is an ongoing educational effort and a primary reason we developed the Journal-specific Ethics form. In some cultures you are honoring the previous author when you use his words. Reading the form informs the author of "the rules." By signing the form the author attests that he read the form.

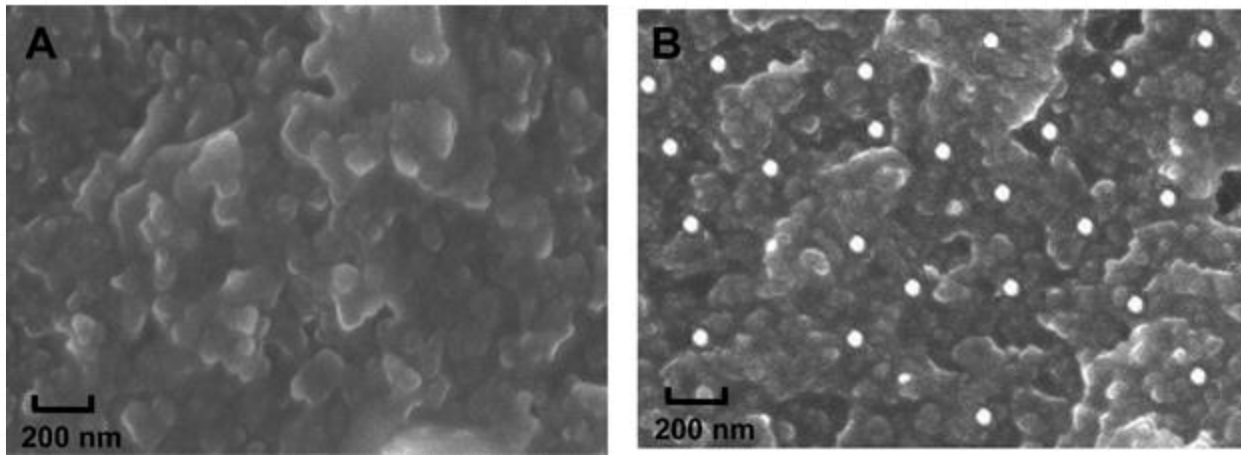
# Plagiarism

## Doctored (Altered) Figure:

Paper was published that contained a doctored figure. This was discovered by a reader. The reader was apparently familiar with the method and dubious that the authors could have obtained the results they showed. When the reader enlarged the figure in the online paper it was clear that the figure had been doctored, bright dots had been copied and pasted throughout the micrograph. Adviser was not aware figure had been doctored by Post-doc. Post-doc banned. Paper retracted.

EXAMPLES OF REAL LIFE  
PLAGIARISM CASE

# Plagiarism



EXAMPLES OF REAL LIFE  
PLAGIARISM CASES

# Plagiarism

Dear Dr. Gardea-Torresdey,

Below is the complete and exact copy of Dr. X's comments as Reviewer #1 on the manuscript entitled "Z" by Dr. Z. As Dr. X stated within his comments - these authors are obviously plagiarizing their own work that was previously published in ZZ Journal.

Dear Dr. Gardea-Torresdey

I started the review for the manuscript by searching for possible previous articles of the two authors (XX and YY), with the help of Scopus. I was surprised to found another article written by the same authors, entitled: "ZZZ". After an Internet search, I found the full text pdf file of this article. After carefully reading and comparing the manuscript submitted for publication and the paper accepted for publication in the ZZ, it is obvious that the two papers rely on the same experimental data. Moreover, I have found many identical paragraphs throughout the two papers.

EXAMPLES OF REAL LIFE  
PLAGIARISM CASES

# Plagiarism

Dear Professor XXXX,

I regret to inform you that my student (XXXX XXXX) submitted a paper extracted from his M.Sc. Thesis, which was carried out under my supervision with financial support and Lab. Facilities, and added the unknown names without permission. The title of paper is "*Application of XXXXXXXXXXXX*" and recently accepted.

I would be grateful if you could temporarily suspend the publishing of this paper. My affiliation is written in the acknowledgment part.

Best Wishes,

XXXX XXXX

Assistant Professor of XXXX



"Plagiarism?" But my roommate gave me permission to use his paper and said I didn't have to cite him."

EXAMPLES OF REAL LIFE  
PLAGIARISM CASES



# Plagiarism

- I am sorry to tell you that your paper titled " Mechanism of XXXX XXXX" has been retracted from the Journal as we received the following comment from a Journal reader:
- "When I was searching references about the toxicity of nanomaterials, I found an accepted manuscript, "Mechanism of XXXX XXXX," by ZZ et al. When I read the paper, I was surprised to find out that almost the whole first paragraph in the Introduction was directly copied from the first paragraph of another published paper by YYYYYYY et al., Tissue distribution and toxicity XXXX XXXX." Please check it."
- I have checked this allegation and I found out that it is indeed the case. This is clearly inappropriate (plagiarism) and I urge you to pay attention to this serious matter in future submissions to this or other Journals.

EXAMPLES OF REAL LIFE PLAGIARISM  
CASES

# Example 1

Chromium speciation in groundwater of a tannery polluted area was investigated for the distribution of chromium species and the influence of redox couples such as Fe(III)/Fe(II) and Mn(IV)/Mn(II) ..... The groundwater of the area is relatively oxidizing with redox potential (Eh) and dissolved oxygen (DO) ranged between 65 and 299 mV and 0.25 and 4.65 mg L<sup>-1</sup>, respectively. The Fe(II) reduction of Cr(VI) was observed in some wells, but several wells that had Fe(II)/Cr(VI) concentrations more than the stoichiometric ratio (3:1) of the reduction reaction also had appreciable concentration of Cr(VI). This could partly be due to the oxidation of Fe(II) to Fe(III) by DO.

Compare with:

Chromium speciation in groundwater of a tannery-polluted area was investigated for the distribution of chromium species and the influence of redox couples such as Fe(III)/Fe(II) and Mn(IV)/Mn(II). Chromium existed as Cr(III), Cr(VI), and Cr(III)-organic complexes, but Cr(VI) was the dominant species. The groundwater was relatively oxidizing with redox potential (Eh), and dissolved oxygen (DO) ranged between 65 and 299 mV, and 0.25 and 4.65 mg L<sup>-1</sup>, respectively. The Fe(II) reduction of Cr(VI) was observed in several wells, but the redox reaction was effectively inhibited due to the oxidation of Fe(II) by DO in some wells.



# Example 2

The Chrompet industrial area is located in the southwestern part of Chennai City, the capital of Tamil Nadu state, India (Fig. 1). The study area occupies an aerial extent of 45 km<sup>2</sup> and is covered by N latitude 12°56\_12\_ to 12°59\_56\_ and E longitude from 80°06\_14\_ to 80°11\_30\_. Though the area was away from residential areas when the tanneries came up nearly a century ago, now it has become part of Chennai City with a substantial population residing there. A cluster of 152 tanneries is located in the area, among them four tanneries process raw hides into wet blue and the others process wet blue to finished leather. About 3,000 m<sup>3</sup> day<sup>-1</sup> of effluents is generated and is treated at the common effluent treatment plant (CETP) located in the area. Before the establishment of CETP during February 1995, the effluents were discharged untreated into the low lying areas and ponds. This resulted in widespread groundwater contamination in the area.

Compare with:

The study area is located at the southwestern part of Chennai City, the capital of Tamil Nadu state, India (Figure.1). It has an aerial extent of 45 km<sup>2</sup> and is covered by N latitude 12° 56'12" to 12° 59'56" and E Longitude from 80° 06'14" to 80° 11'30". The area is underlain by charnokite rocks of archean age. Groundwater occurs in the shallow weathered zone as well as in the deeper fractured zones. Though the area was away from residential areas when the tanneries came up nearly a century ago, now it has become part of Chennai City. About 152 tanneries existing in the area produce about 3000 m<sup>3</sup> day<sup>-1</sup> of effluents. The effluents are treated at the common effluent treatment plant (CETP). Before the establishment of CETP during February 1995, the effluents were discharged untreated into low-lying areas and ponds. This resulted in widespread groundwater contamination in the area.

# Example 3

Initially groundwater samples were collected from 65 dug wells and analyzed for total chromium. The analytical results indicated that 15 wells located nearby tanneries and their waste disposal sites had chromium concentration chromium concentration  $> 50 \text{ } \mu\text{g/L}$ , the limit for drinking water [29]. Hence, these 15 wells were chosen for chromium speciation study.

Compare with:

From the study area, 65 dug wells were chosen for sample collection. For this study, the representative sampling sites were chosen in order to cover various anthropogenic activities including waste disposal. The total chromium determination ..... indicated that out of the 65 samples collected, 15 samples were found to contain total chromium more than  $50 \text{ } \mu\text{g L}^{-1}$ , the recommended limit for drinking water. Most of these samples were from wells located close to tannery waste disposal sites. Hence, these 15 samples were analyzed for chromium species.

# Example 4

On the other hand, the negative correlation between Cr(III) and Eh indicates that under oxidizing conditions (high positive values of Eh), Cr(III) is not favored.

Compare with:

Cr(III) showed negative correlation with DO ( $r = -0.41$ ) and Eh ( $r = -0.60$ ), which indicates that under oxidizing conditions, Cr(III) is not favored.

# Example 5

The concentration of Mn was high compared to Fe(II) and Cr(VI) in samples from the wells 5, 7, 35, 41, 42, 49, 53 and 60 (Fig. 5). Concentration of Mn as high as one order of magnitude compared to Fe(II) was observed in samples from well 5 and 49. The high concentration of Mn, at least in part, could have been responsible for the occurrence of Cr(VI), in the presence of Fe(II). Though the oxidation of Cr(III) by Mn is reported to be slow, it is reasonable to assume that the higher Mn concentration could be indicative of the Cr(III) oxidation. Our observation is contrary to that of Gonzalez et al. [41], who observed a negative correlation between naturally occurring Cr(VI) and Mn. This is because the authors attributed the occurrence of Mn and Fe to the reducing nature of the groundwater, hence, the authors did not observe Cr(VI), which exist only under oxidizing conditions. However, in the present study, the contamination is of anthropogenic origin and the shallow groundwater is more oxic.

Compare with:

The concentration of Mn was high compared to Fe(II) and Cr(VI) in samples from wells 5, 7, 35, 41, 42, 49, 53, 59, and 60 (Fig. 2). Concentration of Mn as high as one order of magnitude compared to Fe(II) was observed in samples from wells 5 and 49. The highest Cr(VI) concentration of  $200.3 \mu\text{g L}^{-1}$  was observed in well 49. The high concentration of Mn, at least in part, could be responsible for the occurrence of Cr(VI) in the presence of Fe(II). Though the oxidation of Cr(III) by Mn is reported to be slow, it is reasonable to assume that the higher Mn concentration could be indicative of the Cr(III) oxidation. Our observation is contrary to that of Gonzalez et al. (2005) who observed a negative correlation between naturally occurring Cr(VI) and Mn. This is because the authors attributed the occurrence of Mn and Fe to the reducing nature of the groundwater; hence, Cr(VI) was not observed under reducing conditions. However, in the present study, the contamination is of anthropogenic origin and the shallow groundwater is more oxic.

# A Recent Case of Plagiarism

Dear Dr. XXXXXX:

Thank you for considering Journal for your manuscript submission. It has been forwarded to reviewers for their consideration, and the reviews are enclosed. After careful consideration, **I regret to inform you that the manuscript cannot be accepted for publication in Journal.**

Although one of the reviewers recommends only minor changes, **Reviewer #3 has made a serious claim against your manuscript concerning plagiarism.** I have reviewed this claim by checking the papers mentioned by the reviewer and have found that you are indeed **copying word by word from the papers. Even though you cite the work (References 25 and 35) at the end of the sentence, you are copying every word and not paraphrasing.**

Furthermore, the submission of this manuscript to Journal is in clear violation of the Ethical Rules signed by you, XXXXXX, on \_\_\_\_\_. The specific violations are:

1. “The authors have not plagiarized any parts of this manuscript; this includes the copying of text...”

As the Corresponding Author signed the Ethical Rules form on behalf of all authors, all persons whose name appears on the manuscript are held accountable for the above violations.



Ethics is taken very seriously by our Journal. This attempt to publish the same material is unethical and unprofessional, and it violates the ethics rules for this and other reputable journals. **A note on this activity by you and your co-authors will be placed in our records, and a second ethical violation will result in you being banned from submitting to our Journal,** with additional consequences such as notifying officials at your institution. As your co-authors agreed to the submission of this manuscript, this email has been sent to your co-authors as well.

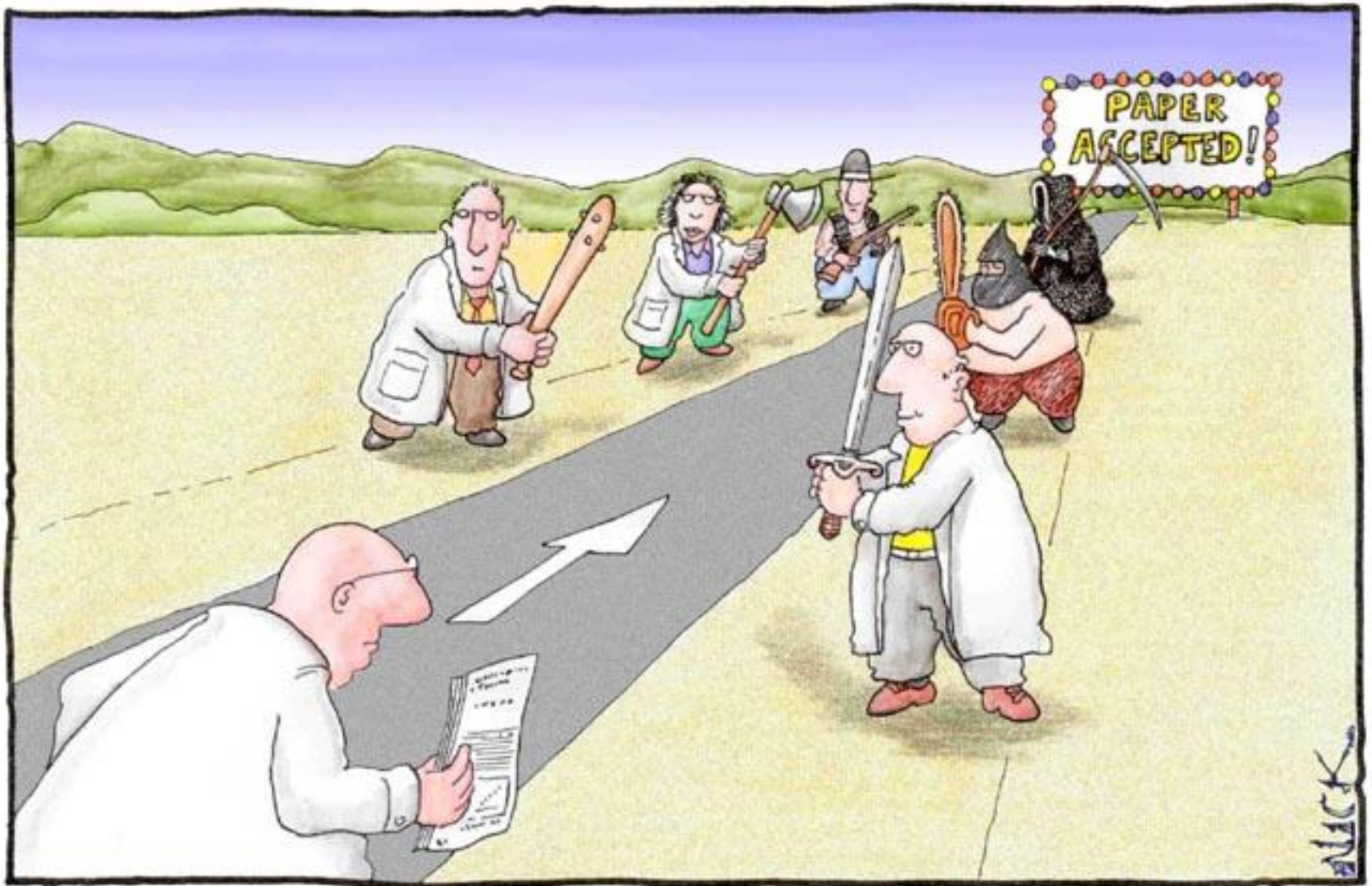
Sincerely,  
Associate Editor

PLAGIARISM

**JUST DON'T  
DO IT!**







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

ANY QUESTIONS?



# The University of Texas-El Paso





# Objectives

- What steps do I need to take before I write my paper?
- How can I ensure I am using proper scientific language?
- How do I build up my article properly?

What steps do I need to take  
before I write my paper?




# Determine if you are ready to publish

**You should consider publishing if you have information that advances understanding in a certain scientific field**

This could be in the form of:

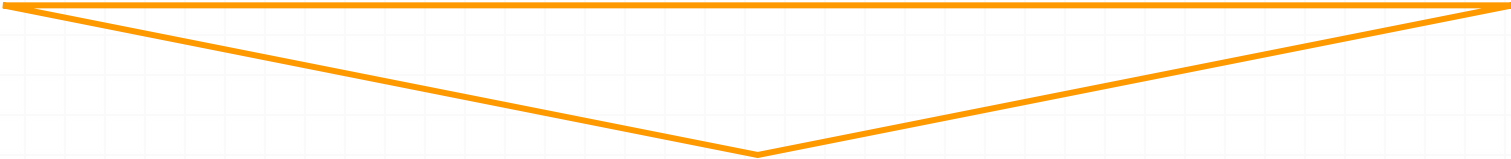
- Presenting new, original results or methods
- Rationalizing, refining, or reinterpreting published results
- Reviewing or summarizing a particular subject or field



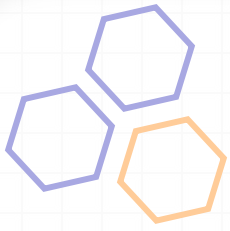
**If you are ready to publish, a strong manuscript is what is needed next**

# What is a strong manuscript?

- Has a clear, useful, and exciting message
- Presented and constructed in a logical manner
- Reviewers and editors can grasp the scientific significance easily



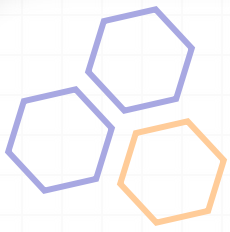
**Editors and reviewers are all busy scientists –  
make things easy to save their time**



## Summary – What steps do I need to take before I write my paper?

- Determine if you are ready to publish
- Decide on the type of manuscript
- Choose the target journal
- Check the Guide for Authors





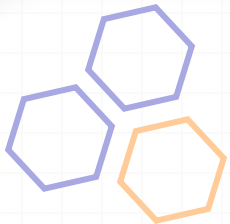
# Scientific Language – Overview

**Write with clarity, objectivity, accuracy, and brevity.**

Key to successful scientific writing is to be alert to common errors:

- Sentence construction
- Incorrect tenses
- Inaccurate grammar
- Mixing languages

**Check the Guide for Authors of the target journal for any language specifications**



# Scientific Language – Sentences

For example:

**“The aims of this study were to determine the biotransformation of ZnO and CeO<sub>2</sub> nanoparticles (NPs) on soybean plants, their impact on DNA stability, and the effects on germination and seedling growth.”**



# Scientific Language – Grammar

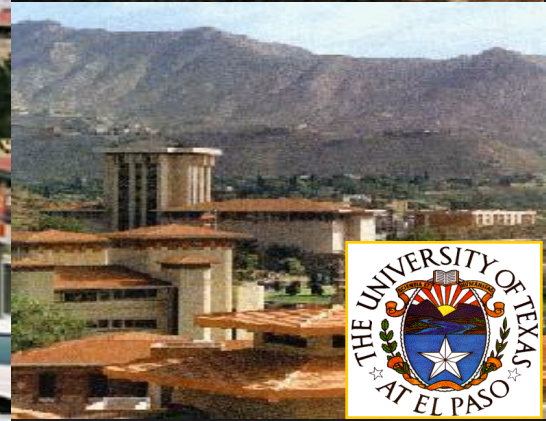
- Minimize use of adverbs: “However”, “In addition”, “Moreover”
- Double-check unfamiliar words or phrases
- Eliminate redundant phrases
  - *FOR EXAMPLE: “~~The people cooperated together and succeeded through teamwork.~~”*

“Never say ‘and references therein’ - as in [1] and [25]. Any intelligent reader knows to look at the references in a paper in order to get even more information.” - *Editor*

“Delete ‘In present report’. It is impossible for it to be in a different report! You start the conclusions “In this report, we have prepared.....” This is nonsense. The samples were prepared in the laboratory!” -*Editor*



# The University of Texas-El Paso



# DECIDE WHICH TYPE OF MANUSCRIPT IS MOST APPROPRIATE

- **FEATURE**
  - 5,000 Word equivalents
- **VIEW POINT**
  - 1,000 Words + 5 References + 1 Single Frame Figure & 50 Word Caption OR 1 350-Word Table + Author Affiliations
- **LETTER TO THE EDITOR**
  - 500 Words + 250 Words of References + Author Affiliations
- **RESEARCH ARTICLE**
  - 7,000 Word Equivalents + Figures + Tables
- **POLICY ANALYSIS**
  - 7,000 Word Equivalents
- **CRITICAL REVIEW**
  - 10,000 Word Equivalents
- **CORRESPONDENCE**
  - 1,000 Word Equivalents







# Scientific Language – Sentences

- Write direct and short sentences

“Soybean (*Glycine max*) is one of the major crops grown worldwide for human consumption”

- One idea or piece of information per sentence is sufficient

“This plant is also an important precursor in the elaboration of several biomaterials and biodiesels”

- Avoid multiple statements in one sentence

# Scientific Language – Tenses

- Present tense for known facts and hypotheses
- Past tense for experiments you have conducted
- Past tense when you describe the results of an experiment

*Savage Chickens*

by Doug Savage



# Scientific Language – Grammar

- Passive Voice: Wordy, lengthy—a chore for the reader
- Active Voice: Direct and straight to the point, precise
- Use active voice to shorten sentences
  - Passive voice: “It has been found that there had been...”
  - Active voice: “We found that...”
  - Passive voice: “carbon dioxide was consumed by the plant...”
  - Active voice: “...the plant consumed carbon dioxide..”
- Avoid abbreviations: “it’s”, “weren’t”, “hasn’t”
  - Never use them in scientific writing
  - Only use abbreviations for units of measure or established scientific abbreviations, e.g. DNA (OK to spell out entire abbreviation initially, however)

# Summary – How can I ensure I am using proper scientific language?

- Proper scientific language is important so that editors and reviewers can easily understand your messages
- Refer to the journal's Guide for Authors for specifications
- Check that your paper has short sentences, correct tenses, correct grammar, and is all in English
- Have a native English speaker check your manuscript

# Agenda

- What distinguishes a very good scientific manuscript from a bad one
- Objectives
- Using the proper Scientific Language
- Why is Language Important?