

The Writer's Workshop Webinar is planned to give prospective author's some background to encourage them to consider writing formal papers or converting presentations that they may have given in the past into formal papers that could be published through IEEE Xplore.



## Panelists

**Peter E. Perkins, PE** has more than 45 years of technical and practical experience. For 17 years he was Manager in Charge of Corporate Product Safety and Regulatory Affairs for a multi-national Fortune 500 electronics company. He has also worked in several engineering and managerial capacities within the Display Components Engineering Division of that company.

Mr. Perkins holds a MSEE degree and is a registered Professional Engineer, Electrical and a registered Professional Engineer, Quality in the USA. He is also a Certified Product Safety Manager. Mr. holds a display patent and is the author of numerous papers. He has given numerous talks and training programs for companies all over the world and teaches the University of Wisconsin Extension course 'Getting your CE marking'.

Mr. Perkins has an ongoing involvement in the development of technical safety standards. He currently sits on seven Technical Committees for IEC, and ISO.

Mr. Perkins provides independent product safety and regulatory consulting to business through PE Perkins, PE, and offerings seminars and training in the product safety and regulatory field.

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**Doug Nix, C.E.T., SM-IEEE** is Managing Director at Compliance InSight Consulting, Inc. in Kitchener, Ontario, Canada. Nix and his partner have owned and operated CIC, Inc. since 2000.

Nix's background spans more than 25 years of engineering technology experience including product testing, industrial control system design and machinery safety.

Nix specializes in risk assessment methods and process. He has been teaching risk assessment principles and processes since 1997, using a variety methods.

Nix provides regulatory consulting services in the Canadian, US and EU markets including CE Marking services for industrial machinery. Nix teaches Introduction to Risk Assessment through Conestoga College Institute of Technology in Kitchener, and provides custom training services to business.

Nix writes the Machinery Safety 101 blog covering machinery safety engineering topics. <http://machinerysafety101.com>.

Nix is a Charter Member of the IEEE Product Safety Engineering Society. Nix sits on the the Board of Directors as Vice President, Conferences for 2011-2013. He is Chapter Chair for the Toronto Section Engineering and Human Environment Joint Chapter.

Nix is certified as an Applied Science Technologist by the Ontario Association of Certified Engineering Technicians and Technologists (OACETT).

**Today's Discussion includes:**

- Formal Technical Writing
  - Structure and Flow
  - Writing the Abstract
  - Citing your sources IEEE-style
- Research, Survey & Historical papers
- IEEE Format
- Peer Review
- Converting existing Presentations into Papers
- ~~Developing the Presentation~~
- ~~Presentation Techniques~~

### Attendee's Package

- IEEE Copyright Assignment form & Guide
- Flyers
- Panelists
- Presentation
  - Notes for the presentation
- Resources
  - Articles
  - Guides
  - IEEE Keyword List
  - Perkins eBurn presentation & paper
  - Plagiarism.pps
  - Referencing
  - Paper Templates



When you think of presenting in front of a group, is this you?

The idea of presenting to an audience is scary to most people.

Writing and presenting can be daunting, but anyone can do it. All you need is a plan.



## Risks and Rewards

Presenting can be risky, but the rewards can be huge. There are personal and professional benefits. There are benefits to your colleagues, your Chapter and your Society.

Benefits of publication include:

- personal growth
- professional reputation
- opportunity to work with colleagues as co-authors
- Society growth
- Journal publication
- revenue generation through Xplore for your Society



## Who can be an Author?

The general definition for the term 'author' gives us this starting point:

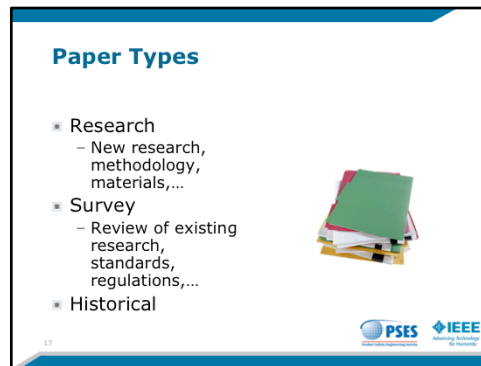
*"a writer of a book, article, or report: he is the author of several books on the subject.*

- *someone who writes books as a profession: my favorite authors are Kurt Vonnegut and Aldous Huxley.*
- *the writings of such a person: I had to read authors I disliked.*
- *an originator or creator of something, esp. a plan or idea: the authors of the peace plan."* [11]

IEEE adds to this by requiring that, "Authorship and co-authorship should be based on a substantial intellectual contribution. It is assumed that all authors have had a significant role in the creation of a manuscript that bears their names." [3].

Authors must contribute directly to the creation of the paper. If you have someone who is involved, for instance by providing laboratory data, but they have not written about the data in the paper, then they should be Acknowledged at the end of the paper.

There is no requirement that authors be academics, nor that they have any particular level of credentials.



## Paper Types

Papers can be divided into three general types:

- Research
- Survey, and
- Historical

Research papers cover new or innovative approaches to existing or new problems. These papers advance the theoretical and practical knowledge base of our field. This could include pure research, or could cover new approaches or methodology. You can also use research papers to describe innovations to existing methods or understanding of a topic.

Survey papers are used to discuss a broad spectrum of topics. If there are several research papers that discuss related topics, a survey paper can be used to bring the results of these separate papers together in context, expanding the understanding of the core topic. They can also be used for discussion of standards and regulatory topics, or any other fact-based discussion.

Historical papers are really a subset of survey papers, except they are based on the history of a topic. The window of time can be current to ancient, as appropriate.

Opinions are not the basis for formal papers, but rather for articles that may be published via the Society Newsletter, blogs, trade magazines or elsewhere. Opinion pieces are not constrained by the same rules of authorship, nor of factual basis because they are your opinion.

Educational pieces may be based on any of the above, but are not generally published in this way, since they are written for a particular educational event or program.





### It all starts with an *Idea*.

Writing a paper starts with an *idea*. There are many sources of inspiration:

- A unique problem
- A unique solution
- Research
- Something new in your field
- A problem you see often
- Something else...

These are the seeds for an article on a topic that you are, or have become, an expert on.

Writing a paper starts with what you know, and a desire on your part to share your work with others. For members in academia, there is a requirement that they publish articles in suitable journals on a regular basis. These articles are evidence of their research, and are the contributions they make to the discipline in addition to the teaching they do with their students.

PSES members are more frequently working engineers in industry. Our fields of practice include consumer products, medical devices, audio/video products, industrial systems and many other areas. Many members work in the regulatory field for testing and certification bodies. Writing a paper gives our members a chance to share their expertise with colleagues, and this contributes to our field of practice.

Writing also helps to establish professional credibility, giving potential clients and employers an opportunity to experience your work directly.



## Starting from Scratch

Presentations on their own are fine, however most attendees are going to want something of substance to take away with them from your talk.

The paper can be an instructional handout, or a formal paper, or something else. IF you rely on simply giving your attendees a copy of the slides, you are shortchanging yourself and your attendees.

By simply handing out your slides, you don't get a chance to provide your attendees with more information than you cover in your talk. This is a chance to provide them with some great web links, or references to other books or papers that you have found valuable. It's also a chance to explore the topic more deeply than you can in a presentation.

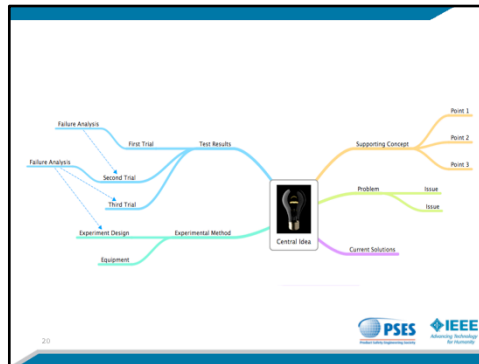
Developing the paper first allows you to fully explore the ideas. The presentation is then a summary view of the paper, told as a story to your listeners. It's not the whole paper. Ever.

Attendees who are spending their time trying to copy down everything you say will be spending all of their attention on writing, not listening to you. They will miss things, and they won't know what's really important.

### **TIP: Give them the notes!**

If you give your attendees the notes at the beginning of the talk, and you let them know that there is abundant information in the notes, so they need not spend time writing, you free them to pay attention to what you are saying.

You can highlight critical points in your talk by stopping and telling people, "THIS point is really important, so write it down:" and then giving them the point and repeating it!



## Developing your ideas

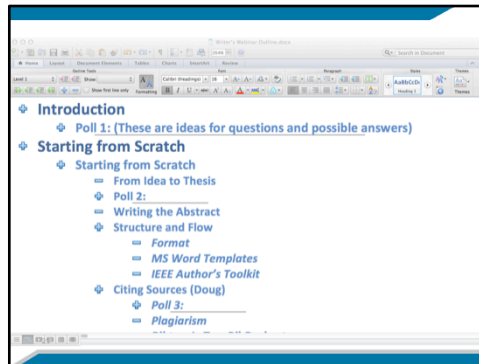
What is the key point - the highlight of the story?

Start with the Central Idea:

- What is the key idea you are exploring?
- What did you set out to prove or disprove?

With this in mind you can use any number of tools to help you build up your idea. These could include Mind Maps, like the one shown here, Outlines, Post-It notes, Issue Maps or any other means that allow you to list the key ideas or arguments and then add supporting information.

This central idea is called the *thesis*. The thesis should be described as clearly and succinctly as possible in the introductory part of the paper, so understanding your thesis is key to getting the rest of the paper right.



## Turning the idea into the structure

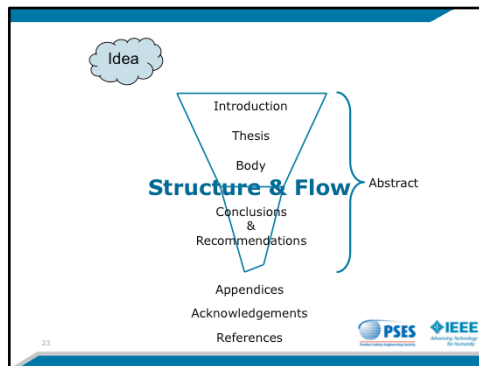
Starting with the mind map, select the key points that you want to discuss. Depending on the length you are trying to achieve, you may need to limit yourself to two or three points. If length is less of constraint, you can add one or two points.

The other consideration is the level of detail necessary to explain the main idea of the paper. If the main idea is technically complex, you may want to limit the paper to a single point.

The length of the paper may be constrained by the intended publication, or it may be unconstrained except by consideration for your reader. 3000-5000 words would be considered to be a significant length, while 1500-3000 words would be a more common length. If you can't fit all of the key points into 5000 words, you are not writing a paper, but a book!

In an article published by the IEEE EMC Society by Bronwyn Brench [1], the author notes that articles submitted to the editors of the *IEEE Transactions on EMC* consider a 'Long Paper' to be eight pages in length, and a 'Short Paper' to be four pages long. A double-spaced, 8-1/2" x 11" page with 1" margins will normally fit about 250 words in 12 point font, so an 8-page paper equates to about 4000 words, while a 4-page paper is about 2000 words.

The next stage is to write the *thesis* of the paper.



## Structure and Flow

### Introduction

The introduction provides the reader with the general background necessary to understand the thesis. This may include a description of the prevailing circumstances, or the state of the art in your field, or some other information starting from a fairly broad perspective and focusing in on and ending with your thesis statement.

### The Thesis

The thesis is the core of the paper. Each of the key points you selected to include in the paper must be included in the thesis, with the number of key points constrained by the final length of the paper. The thesis, or the 'argument' as it's sometimes called, summarizes the entire paper, without the supporting details.

### Body

The body follows the structure laid out in the thesis, point by point. This part of the paper is where you explain the thesis. Scientific and technical reports often use a structure that includes the Abstract, Introduction, Work Done, Results & Discussion, Conclusion and References [1]. The 'Work Done' section can include the methodology, trials, and other elements that lead to the results. In technical review papers, this section may contain the details of the product(s) or document(s) that are being reviewed for discussion.

The Results & Discussion take the reader from the methodology and trials through an understanding of the outcome of the work. The discussion should ready the reader for your conclusions.

### Conclusions

This section sums up the results of the work and gives the author the place to explain what was learned and how it might be applied in the field. In true research papers, this section normally includes a recommendation calling for additional study.

### Appendices

If your paper includes appendices, they precede the acknowledgements.

### Acknowledgements

The Acknowledgements section is used to acknowledge sponsors or supporters who helped to make the research and the paper possible.

### References

This section is used for the citations used in the work.

### The Introduction

- Typically 2-3 paragraphs
  - First Paragraph – sales pitch to reader
  - 2<sup>nd</sup> & 3<sup>rd</sup> Paragraphs – Explanation of the background
- Some texts include the thesis as the fourth paragraph in the introduction.

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### The Thesis

- Contains the complete structure of the paper, without the detail
- Each key point must be included
- The paper must follow the structure in the thesis
- Can be more than one paragraph
- Sometimes called the 'argument'

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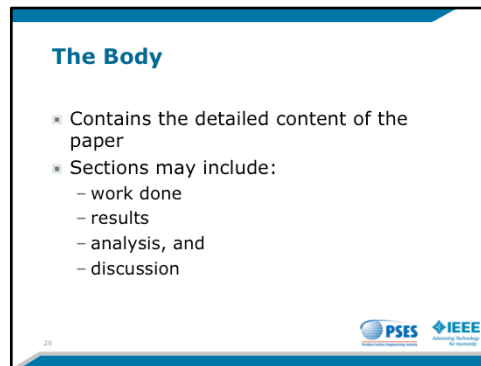


### The Thesis

Developing the thesis is one of the most challenging parts of technical writing. The thesis is the core of the paper. Each of the key points you selected to include in the paper must be included in the thesis, with the number of key points constrained by the final length of the paper. The thesis, or the 'argument' as it's sometimes called, summarizes the entire paper, without the supporting details.

The structure of the thesis **IS** the structure of the paper. As you work through drafting the body of the document you use the thesis as your guide to ensure that your writing maintains the focus necessary to be effective in communicating your ideas.

The thesis can be a single paragraph or multiple paragraphs, depending on whether you are writing on a single point or multiple points. Follow good writing practices as you draft the document.



## The Body

The body of the paper includes all of the details that support the key points contained in the thesis. The structure of the body follows the structure laid out in the thesis. The main elements that are normally included in this part of the document include:

### *Work Done*

This section can include a discussion of your methodology, critical pieces of equipment (but not at the level of an equipment list like that you would include in a lab report), and any other details that would allow a reader to attempt to replicate your results. This is a key idea in any scientific paper, as the scientific method is based on having peers replicate and confirm your results, or discredit the idea.

If you are writing a survey paper where you are reviewing the work in an area, then this is the section where you discuss the work surveyed.

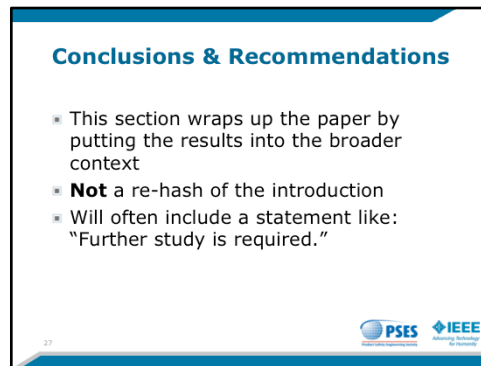
### *Results*

The results section is your opportunity to lay out the results of your work. The level of detail needed is driven by the ability of peers to replicate the results. There should be enough to permit replication, but do not include 'raw' data, unless you are including a small snippet as an example.

### *Analysis & Discussion*

This section is used to analyse the results and discuss the implications. This is a good place to talk about failures and successes in the work, but save your conclusions for the next section in the paper!



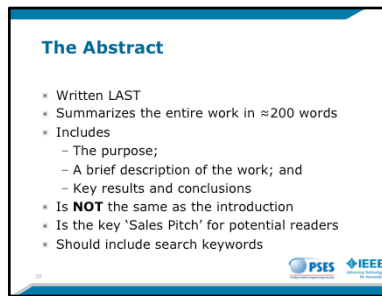


## Conclusions & Recommendations

This section is used to wrap up the paper and to put the work in context. Do not repeat the introduction! The intention is to move from the discussion of the work in the proceeding section into a broader understanding of the work in the context of the field. Ask yourself questions like these:

- How does the work advance the field?
- What makes the work significant?
- If the work improves on an existing process, why should it be adopted by others?
- Is the work definitive, or is more study required?

The conclusions will often include the statement, "Further study is required."



## The Abstract

An abstract is a concise single paragraph summary of completed work or work in progress. In a minute or less a reader can learn the rationale behind the study, general approach to the problem, pertinent results, and important conclusions or new questions.

Summarize the study, including the following elements in any abstract. Try to keep the first two items to no more than one sentence each.

- Purpose of the study - hypothesis, overall question, objective
- Model organism or system and brief description of the experiment
- Results, including specific data - if the results are quantitative in nature, report quantitative data; results of any statistical analysis should be reported
- Important conclusions or questions that follow from the experiment(s) [2].

It's important to remember that the abstract has two roles: first, it summarizes the work so that a reader is not required to skim the work to understand its contents, and second, it acts as a selling tool to encourage potential readers to read the paper and cite it in their own work.

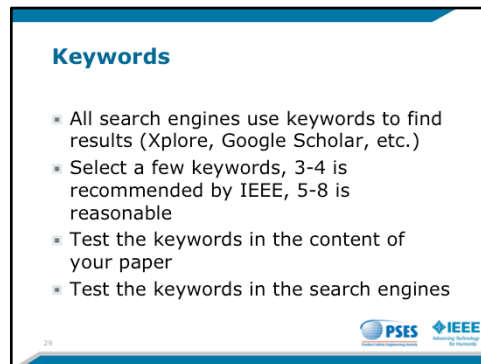
The language used in the abstract must be brief, and all grammar rules must be followed. Spend time getting the content of the abstract right, so that your paper will be found and read by others in your field.

### ***Common Mistakes [1]***

The most common mistake made is to treat the abstract as a brief introduction to the paper. Other points to note include:

- Using too many words can cause readers to skim and possibly miss important points.
- Leaving out the summary results or conclusions can cause readers to lose interest.
- Using acronyms should only be done if used again within the abstract.
- Making a reference with a footnote is never allowed.
- Making a reference with a citation at the end of the paper is never allowed.
- Make certain the English is perfect.
- Avoid background information; that is for the Introduction.

If these guidelines are followed, then your abstract will become a perfect selling point for your paper.



## Keywords

The abstract should include keywords that are relevant to the content of the paper. This helps search engines like Xplore, Google Scholar, and others to index the paper correctly, and will also help with increasing the relevance of the search result for those terms.

Select the keywords carefully, and keep them to a reasonable number, five to eight or ten at the most. Test your ideas by searching using these keywords to see what you find. If you are locating papers on similar or related topics to your work, then you're in the ballpark. If not, work on the list to see if you can improve the results.

The most important keywords should be included in the title of the paper, as well as used in the abstract. All of the keywords should be used in the paper, of course.

### *Developing the keyword list*

One approach is to select a keyword that you think is important, and then use the search function in your word processor to determine how often it is present in the paper. Keep a short list of the selected keywords and tally the frequency. The most important keywords are the ones with the highest tallies. If these differ from what you expected, there are two options:

1. Search for other keywords that may be more appropriate; or
2. Go back and edit the paper to adjust the keyword frequencies.


Too much focus on keywords can destroy the readability of the paper. Don't fall into the trap of skewing the contents solely to accommodate the keywords. Keywords are important, but don't let a focus on keywords distract from producing readable content. This can also result in reducing your search engine rankings, since most of the search engines have algorithms that look for 'keyword spamming'. It's a balance.

### *Resources*

IEEE has resources to help you with keywords as well. You can obtain a recommended list of keywords by emailing [keywords@ieee.org](mailto:keywords@ieee.org). You can also visit [http://www.ieee.org/organizations/pubs/ani\\_prod/keywrd98.txt](http://www.ieee.org/organizations/pubs/ani_prod/keywrd98.txt) to download a list.

Keyword	Count
risk	10
machinery	22
guard	8
safeguard	12
hazard	6
probability	6

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### Doing it the Hard Way

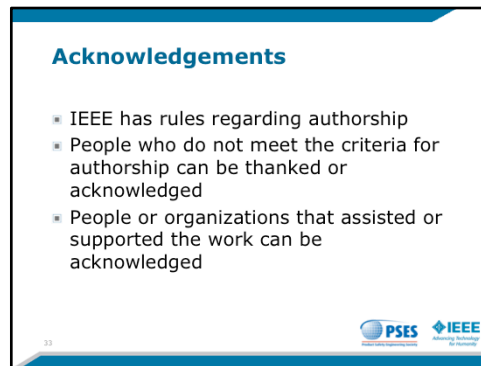
You can use a table like this in a spreadsheet to tally up keywords in the paper if you want to do this the hard way, or you can turn to the next page and learn how to do this the easy way!



wordle.net!



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## Acknowledgements

### Authors

IEEE's rules on authorship are found in the Publication Services and Products Operating Manual, Section 8.2.1 [3]:

#### 8.2.1 Publication Principles

##### A. AUTHORSHIP

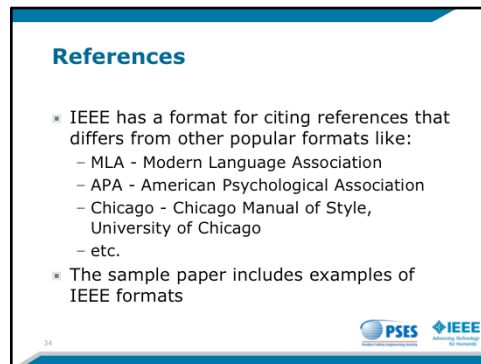
Authorship and co-authorship should be based on a substantial intellectual contribution. It is assumed that all authors have had a significant role in the creation of a manuscript that bears their names. Therefore, the list of authors on an article serves multiple purposes; it indicates who is responsible for the work and to whom questions regarding the work should be addressed. Moreover, the credit implied by authorship is often used as a measure of the contributors' productivity when they are evaluated for employment, promotions, grants, and prizes.

1. The IEEE affirms that authorship credit must be reserved for individuals who have met each of the following conditions:
  - a. Made a significant intellectual contribution to the theoretical development, system or experimental design, prototype development, and/or the analysis and interpretation of data associated with the work contained in the manuscript;
  - b. Contributed to drafting the article or reviewing and/or revising it for intellectual content; and
  - c. Approved the final version of the manuscript as accepted for publication, including references.

Inclusion of deceased persons is deemed appropriate, as authors should be so included with a footnote reporting their death.

There is much more to the rules, so please take the time to check them out in the original manual.

Making sure that your authors are properly qualified is one thing, but what about all of those un-sung people that enabled you to write in the first place: Bosses, colleagues, family, students,... The list can be a long one. The Acknowledgements section is the place to say 'thank you' to all of them. There are no specific rules for this section, so say what you need to say to all those who helped!



## References

There are a number of important reasons to add references to your paper, not the least of which is ensuring that your own work adds to that of others in your field. Using references in your paper shows the depth of research done in preparing the work, and adds support to your own original work.

Properly referencing other's work in your paper helps readers by allowing them to source the original material. This will help put your work in context, and for knowledgeable readers will show the breadth of the work.

Properly referencing colleagues work is a professional courtesy, and shows that you are not attempting to claim any aspect of another's work. Where your work is about replicating another's work to confirm it, and it gives you the opportunity to identify where you have 'tweaked' the original work.



Finally, properly referencing another's work is necessary to ensure that you are not accused of plagiarism. Your work may be very similar to someone else's, and referencing their work shows that you are not claiming their work.

The sample paper provided with the seminar materials give examples of some of the formats for citations.

REFERENCES

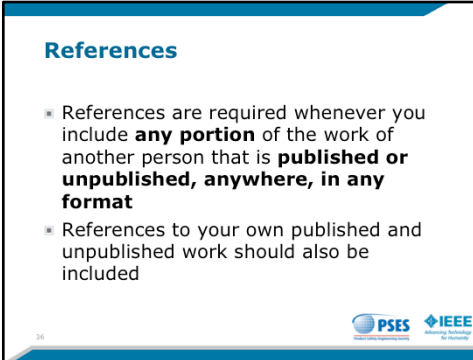
- [1] S. M. Moxey and V. P. Yezko, *Laser Assisted Microtechnology*, 2nd ed., R. M. Osgood, Jr., Ed. Berlin, Germany: Springer-Verlag, 1998.
- [2] J. Brockling, Ed., *The Analysis of Directional Time Series: Applications to Wind Speed and Direction*, ser. Lecture Notes in Statistics. Berlin, Germany: Springer, 1989, vol. 61.
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[8]

Example references taken from the Sample IEEE Paper for US Letter Page Size [8].





**References**

- References are required whenever you include **any portion** of the work of another person that is **published or unpublished, anywhere, in any format**
- References to your own published and unpublished work should also be included

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PSES IEEE  
Product Safety Engineering Society Institute of Electrical and Electronics Engineers

## References (con't)

You must cite every work you have used directly in your work represented by the content of the paper. This means any portion of the work, no matter how small, presuming it has been published anywhere in any format, including papers, magazines, journals, books, standards, conference proceedings, web pages, blogs, etc.

You should also reference your own work, particularly if it was co-authored. You may also reference unpublished work, see the [9]. Published work might include documents prepared and used internally in your organization or elsewhere, but not formally published.



## Plagiarism

### Definition

(noun) - the practice of taking another person's work or ideas and passing them off as one's own. [11]

Plagiarism may result in the author(s) being banned from publication by IEEE. We have included a PowerPoint from IEEE on plagiarism that explains IEEE policies on this in much more detail, including the five levels of plagiarism in the IEEE system [12]. Take some time to look at plagiarism.pps in your attendees package.

Plagiarism is the cardinal sin of professional writing. Plagiarizing another's work is the act of copying their work and reproducing it, under your own name and without crediting the other person. It is unethical and in most jurisdictions in the world, illegal. It is considered to be theft of intellectual property. Authors caught plagiarizing work may suffer both professional consequences and legal consequences if the original author decides to sue for damages.

Re-wording or re-writing the material to try to cover up the original source is not acceptable and will still be seen as plagiarism.

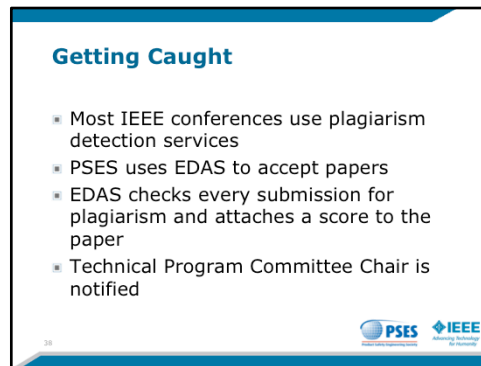
It does not matter how small a reference is made, or how few words you use from someone else's work, if it's not cited properly, it's plagiarism.

### Getting Banned

IEEE and IEEE conferences use a variety of tools to check for plagiarism. Conferences scan papers when they are submitted looking for suspicious works, and then carefully check flagged papers. If the Technical Reviewer(s) are uncomfortable with the work, it is normally reviewed at a higher level where a decision will be made regarding accepting or rejecting the work.

If work is accepted by a conference for any reason, including not using a plagiarism checking system, it will be checked again when it is submitted to IEEE Xplore for publication. Papers found to be plagiarized by IEEE will result in the author(s) name(s) being added to the IEEE Banned Author's list. This list is circulated to all of the plagiarism detection systems, and authors whose names appear on the list will have their papers automatically rejected. Depending on the severity of the plagiarism and the number of times they have been caught, authors may be banned temporarily, or for life.

If you rely on research as part of your work, you cannot afford to be banned. If you are primarily a user of research, you can be comfortable knowing that IEEE publications are carefully checked.



## Plagiarism (con't)

PSES uses the EDAS [4] system to accept paper submissions. When you submit your manuscript, the text is automatically scanned by Docoloc, the anti-plagiarism tool embedded in the EDAS system.

There is no other way provided to submit a paper to the ISPCE each year, so every submission is treated in the same way.

Each paper is then given a plagiarism score – the higher the score, the more material Docoloc believes to be lifted in whole or in part from other sources. It uses the web, Xplore and a number of other document publication databases as the source material for comparison, so the likelihood of slipping one by the system is pretty low, unless the paper was written in a language other than English originally, and the plagiarized material was copied and translated.

High scoring papers are flagged by Docoloc and the Track Chair and the Technical Program Committee (TPC) Chair are notified by email. The system provides a percentage as well as the basic score, and the TPC Chair is required to review and approve or reject the submission.

In most cases, the TPC will contact the author and try to help them correct the problem. If the author is unwilling or unable to work with the TPC, the paper is normally rejected.

Papers that contain large amounts of regulatory text that was copied verbatim will generate high scores, as will any other document with a large amount of copied material, even if well cited. It falls to the humans to decide if it's plagiarism or not.

7/3/12

Similarity Report

**Writers Workshop**  
By: Peter Perkins  
As of Jul 3, 2012 1:44:18 AM EDT  
8,783 words - 17 matches - 11 sources

Similarity Index  
**9%**

Mode: [Similarity Report](#) [2]

Sources:

- 1 264 words / 3% - Internet from Apr 14, 2011  
[en.wikipedia.org](http://en.wikipedia.org)
- 2 186 words / 2% - Internet from Nov 13, 2010  
[www.signalprocessingsociety.org](http://www.signalprocessingsociety.org)
- 3 141 words / 2% - CrossRef  
P.E. Perkins, "Engine Shock protection within the heart cycle", 2007 IEEE Symposium on Product Compliance Engineering, 10/2007
- 4 105 words / 1% - Internet from Mar 11, 2010  
[www.csi.mba.org](http://www.csi.mba.org)

Here is a typical similarity report generated for Peter Perkin's paper referenced in this presentation.

to wrap up the paper and to put the work in context. Do not repeat the introduction. The abstract is **not** more than the discussion of the work in the preceding section into a broader understanding of the work in the context of the field. Ask yourself questions like these: . . . . How does the work advance the field? What makes the work significant? If the work improves on an existing process, why should it be adopted by others? Is the work definitive, or is more study required? The conclusions will often include the statement, "Further study is required." IEEE Product Safety Engineering Society, ©2012 27 Writer's Workshop Webinar The Abstract

An abstract is a concise single paragraph summary of completed work or work in progress.<sup>[4]</sup>  
 In a minute or less a reader can learn the rationale behind the study, general approach to the problem, pertinent results, and important conclusions or new questions. Summarize the study, including the following elements in any abstract. Try to keep the first two items to no more than one sentence each. . . . Purpose of the study – hypothesis, overall question, objective  
 Model organism or system and brief description of the experiment Results, including specific data – if the results are quantitative in nature, report quantitative data; results of any statistical analysis should be reported Important conclusions or questions that follow from the experiment(s)

[2]. It's important to remember that the abstract has two roles: first, it summarizes the work so that a reader is not required to skim the work to understand its contents, and second, it acts as a selling tool to encourage potential readers to read the paper and cite it in their own work. The language used in the abstract must be brief, and all

This image shows how the Docoloc system highlights the suspect text, referenced back to the first part of the report. This makes verification of the text very easy for referees and editors.

### Citation Tools

- **BibText** – A form of tagging used for bibliographies. Related to LaTeX.
- **BibDesk** – A tool for creating and managing bibliographies and creating reference lists in the correct form.
- **Mendeley** – Free desktop and mobile application for creating and managing bibliographies.

### Reference Management Tools

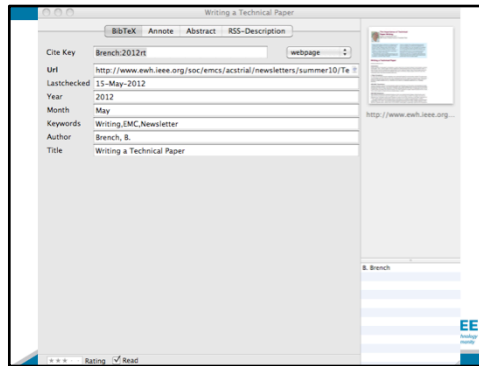
There are quite a few reference management tools available to writers. Some are free and some require a paid membership, although your organization may already have a subscription to one of the available services. See the RESOURCES page for links to more resources!



## Features

BibDesk permits articles residing on a user's computer to be linked to their BibDesk database entries via drag-and-drop, and will auto-file linked PDFs or other copies of articles in desktop folder. It provides a variety of ways to annotate citations which variously do or do not affect the underlying BibTeX data.

Though created to export in BibTeX format for use in LaTeX documents, BibDesk can also export citations formatted in any given citation style in [plain text](#), [RTF](#), [HTML](#), and [RSS](#). It does not itself contain citation styles (e.g. [APA](#), [MLA](#), [Chicago](#)), but through its integration with LaTeX it can automatically produce citations in any of the basic BibTeX styles, and can when used with BibTeX style-files replicate nearly any citation format. Since it creates previews of LaTeX output, it can format entire bibliographies internally if, for example, they are for use in something other than a LaTeX document.



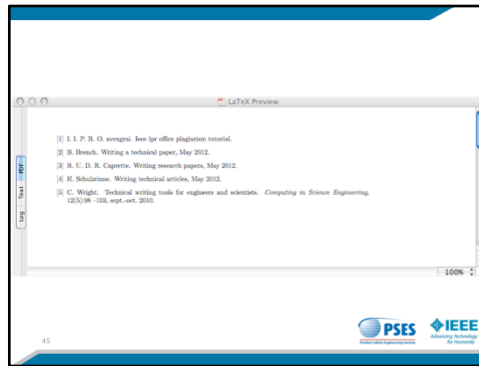
The screenshot shows the 'Writing a Technical Paper' record entry screen in BibDesk. The interface includes a top navigation bar with tabs for 'BibDesk', 'Annotate', 'Abstract', and 'RSS-Description'. Below this is a 'Cite Key' field containing 'Bresch2012b' and a pull-down menu set to 'webpage'. The main form contains the following fields: 'URL' with the value 'http://www.eewh.ieee.org/soc/emcs/acstrial/newsletters/summer10/Tech...', 'Lastchecked' with '15-May-2012', 'Year' with '2012', 'Month' with 'May', 'Keywords' with 'Writing, EMC, Newsletter', 'Author' with 'Bresch, B.', and 'Title' with 'Writing a Technical Paper'. On the right side, there is a preview of the document and a small 'EE' logo. At the bottom, there are buttons for 'Rating' and 'Read'.

## BibDesk Record Entry Screen

Entering data into the record screen is very straight forward. Using the pull-down next to the 'cite key' allows you to pick the type of document that you are referencing. This will change the fields that are shown to you in this window, giving you the appropriate set of fields for the type of document.

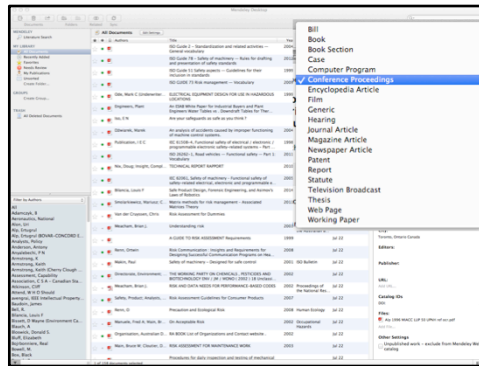
At the bottom of this window you can also rate the document and indicate whether you have read it or not. This information does not come out in the reference list, but is a reference for the user, helping you keep track of which articles you've read.





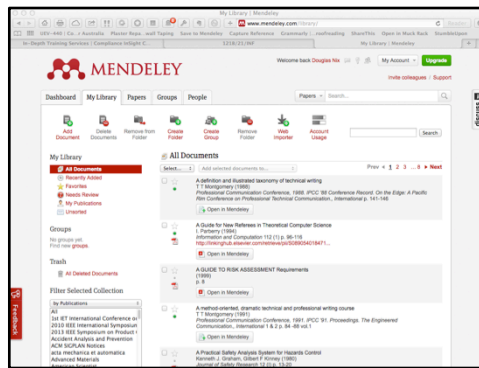
## TeX Preview Window

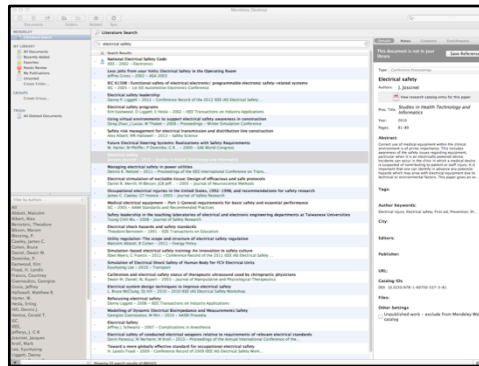
You can see the final format for the references selected when you click on TeX Preview. You can copy this from this window and paste it directly into your document.

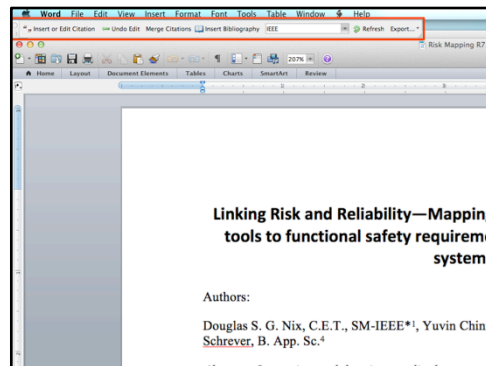


Mendeley is a much newer system than BibDesk, and easier to use in many ways. Unfortunately, not every type of document is supported in the selection of reference types, so documents commonly referenced in PSES papers, like technical standards or legislation, still need manual formatting after the fact. The big advantages to using Mendeley are:

Pro	Con
Web, desktop, and mobile versions make it easy to add documents to your research library	Limited reference styles
The app can organize and maintain your library automatically	No way to create custom reference styles for
Powerful web search for papers	No integration with other word processors, e.g., Pages, Open Office...
Smooth integration with MS Word	
Large and active user base – lots of “how-to” info in the forums	
Social networking features allow users to grow a network of like-minded researchers.	








**References**

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- [2] "Functional safety of electrical/electronic/ programmable electronic safety-related systems - Part 1: General requirements," 1998.
- [3] I. E. Commission, "Iec 61508."
- [4] "IEC 62061, Safety of machinery -- Functional safety of safety-related electrical, electronic and programmable electronic control systems." IEC International Electrotechnical Commission, p. 214, 2005.
- [5] "Safety of machinery -- Safety-related parts of control systems -- Part 1: General principles for design," 2006.
- [6] "Safety of machinery - General principles for design - Risk assessment and risk reduction," 2010.

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This is an example of the way Mendeley formats a bibliography. Some issues exist – notably for me, Mendeley does not yet support the correct formatting for a standards reference, although they assure me they are working on it. You can always correct the references manually when you are done.



## Peer Review

### *Who are Peer Reviewers?*

Peer reviewers are people just like you who have volunteered to give a little time to review papers submitted to the conference. They will typically have some specialized expertise and will volunteer to review papers in that field.

Peer reviewers are essentially quality control for the conference. They have a defined rubric they use to evaluate each submission. They are also mentors for authors. When they find problems with a paper their job is to provide constructive feedback to the author(s) to help them improve the paper. Authors who don't take advantage of this opportunity are losing out on a great chance to improve their writing skills. Remember – it's not personal. They want your paper to shine!

### *The Peer Review System*

The PSES Peer Review System is designed to comply with the IEEE system found in the PSPB Manual. The scoring rubric is available on the Conference Web Site, and is also included with the materials for this seminar.

A copy of the PSES Peer Review Guidelines is in the download package for attendees to this seminar. There is no secret about how we score papers, and we want questions and feedback to help us improve this guideline.

Peer reviews are done on an anonymous basis, meaning that the identity of the reviewers are protected. Reviewers can see the name of the author(s) for the paper they are reviewing, and can communicate with them anonymously through the EDAS system. They also have access to the author's email and phone numbers, and can contact them directly if they are comfortable with that.

Peer review is an important and significant part of every conference PSES puts on. If you would like to contribute to the Society and to your profession, this is a great way to do it!

### *PSES Peer Review Guidelines*

A copy of the current version of the Peer Review Guidelines are included in the Attendee's package from the webinar.

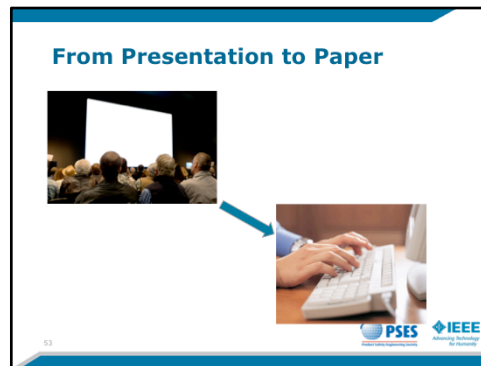
Questions about how the reviews are done can be sent to [dnix@ieee.org](mailto:dnix@ieee.org), or to the Technical Program Chair for the conference. PSES guidelines are similar to many others, but not necessarily the same. Don't assume that you know how it will be done if you submit your work to a different conference or journal. Always ask!

**Poll 5**

- Do you have any presentations you would like to convert into formal presentations?

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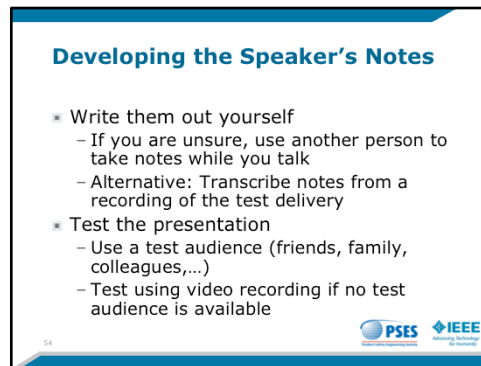
## From Presentation to Paper

If you have a presentation that you've done in the past, or one you are about to give and want to share more widely, converting it into a formal paper is a great way to get a wider audience and to have your ideas peer reviewed.

In the attendees package you will find copies of a paper and presentation done by Peter Perkins in 2006 on touch current and burns associated with those currents:

- Speaker's notes for *Touch Current measurement comparison* (Touch Current measurement - PSES06 – notes.pdf)
- Touch Current measurement comparison: Looking at IEC 60990 measurement circuit performance (Touch Current measurement comparison jnl.pdf)

Mr. Perkins shows how you can develop the paper based on the speaker's notes you create to guide your presentation. This handout was done using the speaker's notes in PowerPoint, and Apple Keynote has a very similar function.



## Developing the Speaker's Notes

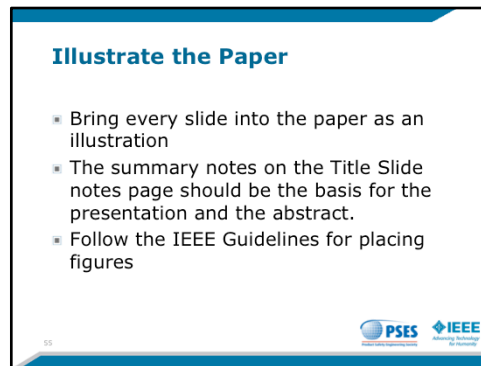
The speakers notes pages in PowerPoint can be formatted in the Notes Master to give you more space and different font sizes than the original template may give you. The document you are reading now was done this way. Using the Notes pages automatically give you an illustration for every page, but the limitation is the space available.

Write your notes out yourself. You know what you want to talk about as you discuss the content of each slide, so putting your thoughts together should be fairly easy. The challenge is this: If you were writing these notes for yourself, you might only list a few points as reminders to yourself. This is the original idea behind the Notes page layout, but if you are giving these notes to your attendees as we have done, then you need to write the material out in more detail.

If you're not sure about writing the notes down, then get a friend or a colleague to listen as you deliver the talk, taking detailed notes on each slide. Transcribe these notes into the Notes for each slide.

Alternatively, you can transcribe these notes from a video recording of the talk as you deliver it.

Test your presentation with a test audience. Get feedback from the audience about ways you can improve the presentation. If you record the test presentation, you can transcribe your notes from the recording.

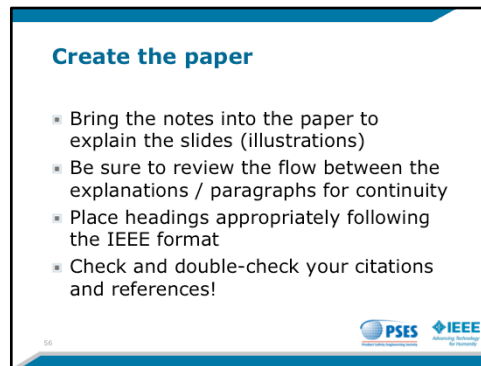


## Illustrate the Paper

Your paper needs illustrations, and those same illustrations are also needed by your presentation. Your presentation slides will be more effective if they are predominantly graphical.

When you are creating your paper from the speaker's notes, bring each slide, or the graphics used on the slide, into your paper as an illustration.

Be aware of the IEEE requirements for illustrations, including placement and font sizes in the finished document. The sample papers in the Seminar Package will give you guidance as will the information on the IEEE Author's web page [15].



## Creating the Paper

Start by bringing all of the speaker's notes into a blank document, and arrange the slide illustrations to go with the supporting text. Remember the need for a clear structure (see slide 12 in this document). Make sure that you have all of the elements required in the paper, and particularly a clear thesis or argument.

Expand on the speaker's notes to bring additional clarity and flow to the paper. Place suitable headings to break up the content in the paper, following the IEEE formatting requirements.

Check and double-check your citations and reference list!

When you are sure that you have all of the required parts of the paper, Introduction, Thesis, Work Done, Results, Discussion, Conclusions and Recommendations, it's time to check your keywords and write the Abstract.

### *Checking Keywords*

Using your favourite technique, such as Wordle.net, extract the keywords and test them as we discussed earlier on slides 18, 19 and 20 . Use 5-8 keywords at most.

### *Writing the Abstract*

Writing the abstract can be a challenge, but it's not impossible. Start with the thesis and extract the key points, then go to the results and extract the key results of the work. Using your keywords, make sure that all of the keywords selected are present in the abstract text. Polish the abstract by ensuring that the points flow together, and make certain that the finished paragraph does not exceed 200 words.

### *Editing your paper*

Let the paper sit for a few days if you can, and then go back and re-read it with a critical eye. Cut at least 30% of the paper at this point. Give the paper to a colleague, partner, friend or family member and ask them to read it and suggest cuts and changes.

Check your grammar and spelling to make sure that the English used is correctly structured and the usage is correct. There are some great resources out there, like the Grammar Girl Podcast [16] and web site [17] and the Little Brown Compact Handbook [18], among others.

### Completing the Paper

- Verify that you have all of the required information in your paper based on the IEEE Template
- Submit your paper!

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### Completing the Paper

Take the edited text you developed from your speaker's notes and paste it into the IEEE template [8], [9]. Make sure that you follow the template requirements and include all of the required parts, including the abstract, keywords, and a short author biography at the end.

Submit your paper to the Conference for publication! When your abstract is accepted and your manuscript has been submitted, work with the peer reviewers to ensure that your paper is as polished and professional as you can make it!

Get ready to present your work at the Conference!



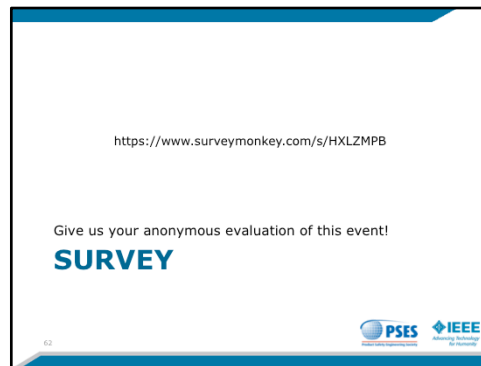
### Questions?

If you feel like you need some one-on-one assistance to get your paper writing skills up to scratch, PSES is offering mentoring opportunities for authors. We want to help, so please contact us for more assistance!

#### *Peer Mentoring*

Volunteer members with experience in writing formal technical papers and in presentation skills are available to any PSES member who is interested in polishing their skills. We have a small pool of volunteers at the moment, and we will try to connect you with a mentor in your Section or Region to allow you to talk with them by phone as well as email. Please make sure to tell us what Region or Section you live in, or if you are not sure about that, what city and country you live in, and what skills you would like to improve, e.g. 'I want to improve my technical writing skills.' or 'I need help with presentation design.'

If you would like to get involved as a peer mentor, please contact Doug Nix, [dnix@ieee.org](mailto:dnix@ieee.org).



## Survey

Please complete our short Event Satisfaction Survey at  
[https://www.surveymonkey.com/s/PSES\\_Writers\\_Web](https://www.surveymonkey.com/s/PSES_Writers_Web).



## Resources

1. IEEE Author's Resources, [http://www.ieee.org/publications\\_standards/publications/authors/index.html](http://www.ieee.org/publications_standards/publications/authors/index.html)
2. IEEE Author's Toolbox, [http://www.ieee.org/publications\\_standards/publications/authors/authors\\_journals.html](http://www.ieee.org/publications_standards/publications/authors/authors_journals.html)
3. Sample IEEE Paper for US Letter Page Size, Version 3, <http://www.emcs.org/technical-committees.html>
4. BibDesk software. <http://en.wikipedia.org/wiki/BibDesk> (there is a link to the download page from here).
5. Reference Management Software, [http://en.wikipedia.org/wiki/Reference\\_management\\_software](http://en.wikipedia.org/wiki/Reference_management_software)
6. RefWorks online reference management system (\$), <http://www.refworks.com/>
7. Mendeley Reference Manager / Social Network. Free basic account with paid upgrades. Free mobile and desktop apps. <http://www.mendeley.com>





## Acknowledgements

All photos and illustrations iStockPhoto, under license. Available: <http://www.istockphoto.com/help/licenses>

### *Contributions*

The panelists want to gratefully acknowledge the contributions of many other people including:

- Gary Tornquist, ISPCE Technical Program Committee Chair
- Elya Joffe, President, Product Safety Engineering Society
- Kimberly Nix
- Compliance InSight Consulting Inc.
- PE Perkins, PE

Our thanks for everything each of you has done to help make this happen!



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### References, continued

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