

Match the general structure of the title section

# A Manuscript Template for the International Journal of Prognostics and Health Management

First Author<sup>1</sup>, Second Author<sup>2</sup>, and Third Author<sup>3</sup>

<sup>1,2</sup>First Business or Academic Affiliation 1, City, State, Zip Code, Country

author1@academic.edu  
author2@academic.edu

Email address should not be hyperlinks

<sup>3</sup>Second Business or Academic Affiliation 2, City, Province, Zip Code, Country

author3@academic.edu

## ABSTRACT

An abstract of 150-400 words should be included in the paper. The abstract should be formatted as an unnumbered section and should be one-column. Abstracts are required for all papers. Be sure to define all symbols used in the abstract, and do not cite references in this section.

## 2.1 Publication by the Annual Society of the Prognostics and Health Management Society

Your manuscript cannot be published by the International Conference of the Prognostics and Health Management Society if:

- 1 The work is classified or has not been cleared for public release. Authors are responsible for ensuring that papers are unclassified for public release and do not include Sensitive or International Traffic in Arms Regulations (ITAR) export controlled (United States only) material.
2. The work infringes copyright.
3. The work has been published or is currently under consideration for publication elsewhere.

## 1. ELECTRONIC SUBMISSION

Section heading should have Arabic numbers

These instructions provide guidance for the annual Conference of the Prognostics and Health Management Society, 2011. Use this document as a template if you are using Microsoft Word 6.0 or later. If you prefer to use LATEX, download the LATEX style template files from the conference webpage. The full text paper (except the abstract and the figures and tables given after the references) is formatted in two columns. Manuscripts should be written in clear, concise grammatically correct English so that they are intelligible to a professional reader who is not a specialist in any particular field. Manuscripts that do not conform to these requirements and the following manuscript format will be returned to the author prior to review for correction.

Section should have no indentation

Use this template to prepare a two-column mock-up of your paper to show how your manuscript will appear in the proceedings of the conference. Where appropriate, use International System of Units (SI) only.

## 2. GENERAL GUIDELINES

The following section outlines general (non-formatting) guidelines to follow. These guidelines are applicable to all authors and include information on the policies and practices relevant to the publication of your manuscript.

First Author et al. This is an open-access article distributed under the terms of the Creative Commons Attribution 3.0 United States License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Proper Copyright notice should be put at the bottom

## 2.2 Copyright

The Prognostic and Health Management Society advocates open-access to scientific data and uses a Creative Commons license ([www.creativecommons.org](http://www.creativecommons.org)) for publishing and distributing any papers. A Creative Commons license does not relinquish the author's copyright; rather it allows them to share some of their rights with any member of the public under certain conditions whilst enjoying full legal protection. By submitting an article to the International Conference of the Prognostics and Health Management Society, the authors agree to be bound by the associated terms and conditions including the following:

As the author, you retain the copyright to your Work. By submitting your Work, you are granting anybody the right to copy, distribute and transmit your Work and to adapt your Work with proper attribution under the terms of the [Creative Commons Attribution 3.0 United States license](http://creativecommons.org/licenses/by/3.0/). You are also granting worldwide, non-exclusive, and irrevocable rights to the Prognostics and Health Management Society to publish and disseminate your Work through electronic and print media if it is accepted for publication.

Margin should be 0.75"

Margin should be 0.75"

A license note citing the Creative Commons Attribution 3.0 United States License needs to be placed in the footnote on the first page of the article.

### 3. PAPER FORMAT

Papers size should be “US Letter” (8.5 by 11 inches; 215.9 mm × 279.4 mm), with two-column format, except for the title, author information and figures and tables placed after the references. Margins should be 1.0 inches top and bottom, and 0.75 left and right. Columns should be equally sized, 3.38 inches, with 0.25 inches between columns. Paragraphs should be unindented, with a 6 pt vertical spacing between paragraphs.

All papers should use Times Roman 10-point font throughout.

#### 3.1 Title and Author Information

All items in the title block should be centered across both columns. The title should be set in 16 pt bold, with a 14 pt space below. The author’s names should be set in 11 pt font, with an 11 pt space below.

For each author, a numbered superscript should be used to indicate institutional affiliation. Following the author information, each institution with which any of the authors are affiliated should be listed, including addresses. These should be indicated by superscripts as well, and set in 9 pt italic, with a 12 pt space below the final one. The final item in the title block is the author’s email address in 9 pt italics. A 24 pt space should follow this line.

#### 3.2 Section and Subsection Headings

Section and subsection headings are numbered using Arabic numerals separated by a period (.). Section headings (heading 1, in Word) are “small capitals”, 10 pt, boldface, and flush left. Subsections (heading 2, in Word) are 10 pt, boldface, and flush left. Sub-subsections (heading 3, in Word) are 10 pt, boldface, and flush left. All levels below this are unnumbered, 10pt, boldface, with text beginning immediately following the heading on the same line. Insert a new line after each section.

#### 3.3 Tables and Figures

Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. To insert images in Word, position the cursor at the insertion point and either use Insert | Picture | From File or copy the image to the Windows clipboard and then Edit | Paste Special | Picture (with “float over text” unchecked). Tables and figures should be numbered consecutively, with captions below the table or figure. Captions should be 10 pt,

and centered. Two-column-wide figures and tables may be used as appropriate. Tables should be self-contained and complement, but not duplicate, information contained in the text. Individual numbering of subfigures (using lower-case letters) is also encouraged where appropriate. See the Table 1 example of table style and column alignment.

Time	Event
15:56:21.194	Start of scenario
15:56:21.236	Sample of sensors
15:56:21.736	Sample of sensors
...	
15:57:04.736	Sample of sensors
15:57:05.080	Fault injection
15:57:05.236	Sample of sensors
...	
15:57:42.252	End of scenario

Table 1. Caption of the table

Table caption should be at bottom

Place figure captions below all figures. If your figure has multiple parts, include the labels “a),” “b),” etc., below and to the left of each part, above the figure caption. Please verify that the figures and tables you mention in the text actually exist. Number each different type of illustration (i.e., figures, tables, images) sequentially with relation to other illustrations of the same type.

The size of the font in the figure must match the size of the font in the manuscript text; it must be legible and not blurred or pixelated. The line weight of figures must not appear broken or rasterized. For vector graphics, the preferred format is EPS; for halftones, please use TIFF format. Vector graphics containing fonts must have the fonts embedded in the files. Do not use faint lines and/or lettering and check that all lines and lettering within the figures are legible at final size. All lines should be at least 0.1 mm (0.3 pt) wide. Scanned line drawings and line drawings in bitmap format should have a minimum resolution of 300 dpi. Color figures are acceptable but you must ensure that data are distinguishable in grayscale prints.

#### 3.3.1 Figure Styles

When creating figures, there are several formatting guidelines which should be followed:

- do not put a frame around the figure outside the axes
- do not color the background of a figure
- do not use pie charts
- do not used “stacked” bar charts
- do not use any sort of “3d” effect in figures
- do always include a clear and distinct legend

- avoid using only color to distinguish data (i.e., use point and line shapes)
- where possible, may be figures entirely in grayscale

Note that the default settings for Microsoft Excel violate many of these guidelines, and more generally, it is quite difficult to create publication-quality figures using Excel.

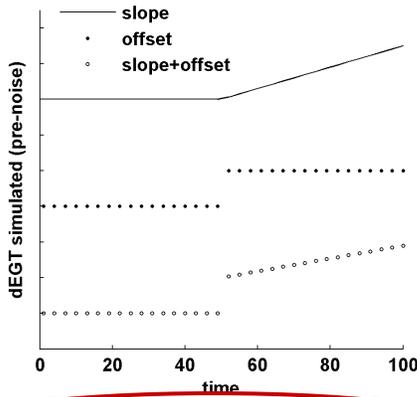


Figure 1. This is an example of figure caption

Figure caption should be at bottom

### 3.4 Equations, Numbers, Symbols, and Abbreviations

Equations are centered and numbered consecutively, with equation numbers in parentheses flush right, as in Eq. (1). Insert a blank line on either side of the equation. First use the equation editor to create the equation.

A sample equation is included here, formatted using the preceding instructions. To make your equation more compact, you can use the solidus (/) or appropriate exponents when the expression is five or fewer characters. Use parentheses to avoid ambiguities in denominators.

$$\int_a^b F(x)dx = 2\sigma \quad (1)$$

Be sure that the symbols in your equation are defined before the equation appears, or immediately following. Italicize symbols (T might refer to temperature, but T is the unit tesla). Refer to “Eq. (1),” not “(1)” or “equation (1)” except at the beginning of a sentence: “Equation (1) is.” Equations can be labeled other than “Eq.” should they represent inequalities, matrices, or boundary conditions. If what is represented is really more than one equation, the abbreviation “Eqs.” can be used.

Define abbreviations and acronyms the first time they are used in the main text. Very common abbreviations such as PHM and SI do not have to be defined. Abbreviations that incorporate periods should not have spaces: write “P.R.,” not “P. R.” Delete periods between initials if the abbreviation has three or more initials; e.g., U.N. but ESA. Do not use abbreviations in the title unless they are unavoidable.

### 3.5 Citing Literature

#### 3.5.1 References in Text

The following entries are intended to provide examples of the different reference types, in accordance with the Annual Conference of Prognostic and Health Management Society style. All references should be in 10-point font.

Works by a single author are cited by the last name of the author and the year of publication are inserted in the text at the appropriate point, e.g., “early work on this topic (Smith, 1994)”. If the name of the author or the date appear as part of the narrative, cite only missing information in parentheses, e.g., “in her early work, Smith (1994) found”.

When a work has two authors, always cite both time the reference occurs in the text. In material join the names with an ampersand (& been shown (Smith & Zhang, 1982)”. However, in text, join the names with the word “and”, e.g., “Smith and Zhang (1982) show that”.

Citation should be APA format

When a work has three, four, or five authors, cite all authors the first time the reference occurs, e.g., “Zhang, Smith, and Patel (2002) found”. In all subsequent citations, include only the surname of the first author followed by “et al.” (Latin for “and others”) and the year of publication, e.g., “Zhang et al. (2002) found”.

Works by associations, corporations, government agencies, etc. are referenced by the name of the body that created the work, e.g., “the 2004 National Academy of Sciences [NAS] report”. When appropriate, abbreviations can be used in all subsequent citations, provided that there is enough information in the text citation for a reader to locate its source in the reference list without difficulty, e.g., “the report (NAS, 2004) showed”.

#### 3.5.2 Formatting the “References” Section

The references should be grouped at the end of the paper, following these general guidelines:

1. All lines after the first line of each entry should be indented one-quarter inch from the left margin. This is called hanging indentation.
2. Authors' names are inverted (last name first); give the last name and initials (first and middle) for all authors of a particular work.
3. Reference list entries should be alphabetized by the last name of the first author of each work.
4. If you have more than one article by the same author, single-author references or multiple-author references with the exact same authors in the exact same order are listed in order by the year of publication, starting with the earliest.

5. When referring to any work that is NOT a journal, such as a book, article, or Web page, capitalize only the first letter of the first word of a title and subtitle, the first word after a colon or a dash in the title, and proper nouns. Do not capitalize the first letter of the second word in a hyphenated compound word.
6. Capitalize all major words in journal titles.
7. Italicize titles of longer works such as books and journals.
8. Do not italicize, underline, or put quotes around the titles of shorter works such as journal articles or essays in edited collections.

Some references have a Digital Object Identifier (DOI) – a string of numbers (and/or letters) assigned to individual journal articles as well as to some other publications. Include the DOI for articles that you retrieve both online and in hardcopy. The database may provide the DOI as part of the citation, or you may have to look at the top or bottom of the first page of the article to find it.

If a document has a DOI, then you do not need to include a website address (URL) or other retrieval information. The readers can go to <http://www.doi.org> and use the DOI to locate the article.

If you retrieve an article online and it does not have a DOI, include the URL of the article. Older hardcopy journals will not have a DOI, and it can be left out.

Particular examples of common reference types are given below.

#### Articles in Periodicals

Authors are named last name followed by initials; multiple authors are followed by a comma; the final author is connected using an ampersand (&) rather than “and”. Publication year goes between parentheses, followed by a period. The title of the article is in sentence-case, meaning only the first word and proper nouns in the title are capitalized. The periodical title is run in italicized title case, and is followed by the volume number, issue number (if any, in parentheses), and pages. Each section of the entry ends with a period followed by a single space This is the basic format:

Author, A. A., Author, B. B., & Author, C. C. (Year). Title of article. *Title of Periodical*, volume number (issue number), pages. doi:0000000/000000000000

#### Books

This is the basic format for books:

Author, A. A., & Author B. B. (Year). *Title of work: Capital letter also for subtitle*. Location: Publisher.

Edited books:

Author, A. A., & Author B. B. (Eds.). (Year). *Title of work: Capital letter also for subtitle*. Location: Publisher.

Chapters in edited books:

Author, A. A., & Author, B. B. (Year). Title of chapter. In Editor A., & Editor B. (Eds.), *Title of book* (pages of chapter). Location: Publisher.

#### Articles in Conference Proceedings

This is the basic format for articles appearing in conference proceedings:

Author, A. A., & Author, B. B. (Year). Title of paper. *Title of conference* (page numbers), month day-day, conference location. doi:0000000/000000000000

#### Dissertations

This is the basic format for articles appearing as dissertations:

Author, A. A., (Year). *Title of dissertation*. Doctoral dissertation. Name of Institution, Location. URL

#### 4. CONCLUSION

Although a conclusion may review the main points of the paper, it must not replicate the abstract. A conclusion might elaborate on the importance of the work or suggest applications and extensions. Note that the conclusion section is the last section of the paper to be numbered. The appendix (if present), acknowledgment (if present), nomenclature (if present), and references are listed without numbers.

#### ACKNOWLEDGEMENT

The acknowledgement section is optional. Please list any acknowledgment here using a single paragraph.

#### NOMENCLATURE

(this section is optional)

$A$	amplitude of oscillation
$a$	acceleration
$C_p$	pressure coefficient
$F_x$	X component of the resulting force
$F_y$	Y component of the resulting force
$m$	mass
$dt$	time step
$T$	temperature
$P$	pressure
$f, g$	generic functions
$h$	height
$I$	current
$V$	voltage
$\alpha$	dummy variable

## REFERENCES

Chen, W., (1991). *Nonlinear Analysis of Electronic Prognostics*. Doctoral dissertation. The Technical University of Napoli, Napoli, Italy.

Reference format should be APA

(1999), *ISF Prognostics and Health Proceedings of IEEE Aerospace* March 6-13, Big Sky, MO. doi: .1999.793190

Hyndman, R. J., & Koehler, A. B. (2006). Another look at measures of forecast accuracy. *International Journal of Forecasting*, vol. 22, pp. 679-688. doi:10.1016/j.ijforecast.2006.03.001

International Standards Organization (ISO) (2004). Condition Monitoring and Diagnostics of Machines - Prognostics part 1: General Guidelines. In ISO, *ISO13381-1:2004(e)*. vol. *ISO/IEC Directives Part 2, I. O. f. S.* (ISO), (p. 14). Genève, Switzerland: International Standards Organization.

Schwabacher, M., & Goebel, K. F. (2007). A survey of artificial intelligence for prognostics. *Proceedings of AAAI Fall Symposium*, November 9–11, Arlington, VA. [www.aaai.org/Library/Symposia/Fall/2007/fs07-02-016.php](http://www.aaai.org/Library/Symposia/Fall/2007/fs07-02-016.php)

Vachtsevanos, G., Lewis, F. L., Roemer, M., Hess, A., & Wu, B. (2006). *Intelligent fault diagnosis and prognosis for engineering system*. Hoboken, NJ: John Wiley & Sons, Inc.

**First A. Author** This format should be used if no pictures are used for the biographies. Other authors may include biographies at the end of regular papers. The biography

paragraph may contain a place and/or date of birth (list place, then date). Next, the author's educational background is listed. The degrees should be listed with type of degree in what field, which institution, city, state, and country, and year degree was earned. Please use the pronoun of the person (he or she) and not the author's last name. Military and work experience, including summer and fellowship jobs may also be listed. Information concerning previous publications may be included. Current and previous research interests end the paragraph. Finally, list any memberships in professional societies other than the PHM Society followed by any awards and honors.



**Second B. Author** and the other authors may include biographies at the end of regular papers. The biography paragraph may contain a place and/or date of birth (list place, then date). Next, the author's educational background is listed. The degrees should be listed with type of degree in what field, which institution, city, state, and country, and year degree was earned. Please use the pronoun of the person (he or she) and not the author's last name. Military and work experience, including summer and fellowship jobs may also be listed. Information concerning previous publications may be included. Current and previous research interests end the paragraph. Finally, list any memberships in professional societies other than the PHM Society followed by any awards and honors. If a photograph is provided, the biography will be indented around it. The photograph is placed at the top left of the biography.