

## Preparation of Papers for IEEE Instrumentation & Measurement Magazine

First Author name, Second Author name, and Third Author name

This document is a template for preparing a submission for IEEE Instrumentation & Measurement Magazine. The Magazine has the goal of providing readable introductions and overviews of methodologies, technologies and applications in the field of Instrumentation and Measurement to a wide engineering audience.

Articles submitted to the Magazine are expected to address open problems and challenging topics in the Instrumentation and Measurement framework. As such, the following guidelines must be fulfilled while preparing an article for the Magazine:

- 1) **Articles submitted to the Magazine must be framed in the proper context of Instrumentation and Measurement (IM).** This could be achieved by properly structuring sections that review the state of the art and motivations of the work, with the aim of properly highlighting the subject addressed by the paper and demonstrating its contextualization in the framework of IM. It is expected that sufficient references be made to articles published in IM venues (journals and conferences).
- 2) **Although feature articles are expected to have technical content, they must have a broader appeal and not be too specialized** (e.g., without many equations or detailed code), since they should primarily present to the wide audience a general overview of the scientific subject addressed. A section describing **SHORT case studies** are encouraged, with the aim to demonstrate applications of the methodology/technology addressed by the article.
- 3) **Articles are NOT expected to necessarily bring meaningful novelties.**
- 4) Review articles and overviews on IM methodologies/technologies/applications are very welcome, as well as contributions dealing with Open Problems in IM, that present challenging and ambitious topics which could be assisted by current and advanced technology.
- 5) In line with the Magazine mission, **articles must be more tutorial in nature** and written to appeal to non-experts as well as experts in the field.
- 6) IEEE Publication Policies: Please familiarize yourself with and strictly follow relevant IEEE policies in the IEEE Publication Services and Products Board Operations Manual ([PSPB Manual](#)), in particular, Sections 8.2.1A (Authorship), 8.2.1.B (Responsibilities of Authors), 6.3.1 + 8.1.4 (Copyright), and 8.2.4 (Author misconduct and plagiarism). Please take very seriously author misconduct and plagiarism.
- 7) IEEE Publishing Ethics: please strictly follow the [Ethical Requirements](#), including the definition of authorship, the appropriate citation of sources, the accurate reporting of data, and the publishing of original research.

### Guidelines for Manuscript Preparation

The article should not be organized in an outline format. Please use a one-column format in Word, and present the complete manuscript in 12-point Times New Roman font. Use margins of 2.5 cm on each side and left justify the text. (When typeset by the printer, the article will be

formatted as a two-column layout; for submitting an article, please do not add special spacing or formatting.)

### ***Typical Structure of a Manuscript***

The *Magazine* format does not include an abstract. Instead, you may include an introductory paragraph that acts as an abstract. It does not need to be labeled with a heading since Introduction is implied. Since there is no outlined, Roman numeral format, please use bullets for items in a list. Page numbers are not necessary.

Submit a paper that has no more than 3,500 words (5000 words for review articles) including tables. Submit a paper with no more than five figures, if possible. All figures should be numbered and have a caption. Please include figures in line with the text.

Number all equations, references, tables, and figures in consecutive, numerical order.

Please limit the total number of figures to 5-6, if possible. The *Magazine* does not include footnotes. Basic author information, including affiliation, should be placed in the bio.

### ***General sections of a manuscript:***

*Introduction:* defines the addressed framework, the rationale, highlighting open problems

*Related works:* provides a very well drafted state-of-the-art

*Case of study (if any):* describes in a very simple way, show methodology, implementation and results; avoid using equations unless strictly required.

### ***Conclusions***

*Acknowledgment:* Should authors need to recognize a corporation or funding organization, please include a brief acknowledgment statement.

*References:* Please limit the total number of references to 10-12 (15-18 for review articles), if possible. Please do not use automatic numbering or endnotes in *Word*, rather type the reference list at the end of the paper using the IEEE guidelines shown below. They should be left-justified with no hanging indentation. Please use author's first initial, last name and list all of the authors, if available. If the list exceeds 5, please use *et al.* The *Magazine* does not include DOIs. See additional formatting details below.

*Bios:* see example below

### ***Figures and Tables***

Please number figures sequentially as Fig. x and include a brief figure caption with each figure. The description for a figure belongs in the text. Similarly, descriptions of data and information presented in a table should be given in the text.

When referencing your figures and tables within your paper, use the abbreviation "Fig." even at the beginning of a sentence. Do not abbreviate "Table."

## ***Subheadings***

Write **Headings** in bold font and ***Subheadings*** in bold italic font with no numbering or outline formatting. *Third level headings*: should be incorporated in the first paragraph of that heading.

## ***Abbreviations and Acronyms***

Define abbreviations and acronyms the first time they are used in the text. Abbreviations such as IEEE, SI, ac, and dc do not have to be defined. Do not use abbreviations in the title unless they are unavoidable (for example, “IEEE” in the title of this article).

Use one space after periods and colons. Hyphenate complex modifiers: “zero-field-cooled magnetization.” Use a zero before decimal points: “0.25,” not “.25.” Use “cm<sup>3</sup>,” not “cc.” Indicate sample dimensions as “0.1 cm × 0.2 cm,” not “0.1 × 0.2 cm<sup>2</sup>.”

A parenthetical statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.) In American English, periods and commas are generally placed within quotation marks, like “this period.” Avoid contractions; for example, write “do not” instead of “don’t.” The serial comma is preferred: “A, B, and C” instead of “A, B and C.”

## ***I-MATH***

### **Math**

If you are using *Word*, use either the Microsoft Equation Editor or the *MathType* add-on (<http://www.mathtype.com>) for equations in your paper (Insert | Object | Create New | Microsoft Equation *or* MathType Equation).

## ***Equations (ONLY IF STRICTLY REQUIRED)***

Number equations consecutively with equation numbers in parentheses flush with the right margin. To make your equations more compact, you may use the solidus ( / ), the exp function, or appropriate exponents. Use parentheses to avoid ambiguities in denominators. In the text, refer to “(1),” not “Eq. (1)” or “equation (1),” except at the beginning of a sentence. Be sure that the symbols in your equation have been defined before the equation appears or immediately following.

## ***Units***

Please refer to the general IEEE guidelines for units and abbreviations used in magazine articles that may be found online at <https://www.ewh.ieee.org/soc/ias/pub-dept/abbreviation.pdf>.

## **References**

Please limit the number of references to 10-12 (15-18 for review articles), if possible. Keeping the numbers in sequential order as they appear in the text, the reference number should appear on the line, in square brackets, and inside the punctuation. Multiple references are each numbered with separate brackets, i.e. [14], [16]. In the text, refer simply to the reference number. Do not use “Ref.” or “reference” except at the beginning of a sentence, if needed.

If the paper has no references, please supply three “For Further Reading” sources. These should be added at the end of the article and be in the format for references but do not need to be cited in the text and are not numbered.

*Basic format for periodicals:*

J. K. Author, "Name of paper," *Abbrev. Title of Periodical*, vol. x, no. x, pp. xxx-xxx, Abbrev. Month, year.

[1] J. U. Duncombe, "Infrared navigation—Part I: An assessment of feasibility," *IEEE Trans. Electron Devices*, vol. ED-11, no. 1, pp. 34–39, Jan. 1959.

[2] E. P. Wigner, "Theory of traveling-wave optical laser," *Phys. Rev.*, vol. 134, pp. A635–A646, Dec. 1965.

[3] S. Azodolmolky *et al.*, Experimental demonstration of an impairment aware network planning and operation tool for transparent/translucent optical networks," *J. Lightw. Technol.*, vol. 29, no. 4, pp. 439–448, Sep. 2011.

*Basic format for books:*

J. K. Author, "Title of chapter in the book," in *Title of His Published Book*, xth ed. City of Publisher, (only U.S. State), Country: Abbrev. of Publisher, year, ch. x, sec. x, pp. xxx–xxx.

[4] G. O. Young, "Synthetic structure of industrial plastics," in *Plastics*, 2nd ed., vol. 3, J. Peters, Ed. New York, NY, USA: McGraw-Hill, pp. 15–64, 1964.

[5] W.-K. Chen, *Linear Networks and Systems*. Belmont, CA, USA: Wadsworth, pp. 123–135, 1993.

*Basic format for conference proceedings (published):*

J. K. Author, "Title of paper," in *Abbreviated Name of Conf.*, pp. xxxxxx, year.

[6] D. B. Payne and J. R. Stern, "Wavelength-switched passively coupled single-mode optical network," in *Proc. IOOC-ECOC*, pp. 585–590, 1985.

*Example for papers presented at conferences (unpublished):*

[7] D. Ebehard and E. Voges, "Digital single sideband detection for interferometric sensors," presented at the *2nd Int. Conf. Optical Fiber Sensors*, Jan. 1984.

*Basic format for paper or other online article, when author's name is given*

J.K. Author, "Title of article," corporation or website, date. [Online]. Available: site/path/file.

[12] M. Abouheaf, W. Gueaieb, and D. Spinello, "Online multiobjective model-independent adaptive tracking mechanism for dynamical systems," *Robotics*, vol. 8, no. 4, p. 82, Sep. 2019. [Online]. Available: <https://www.mdpi.com/2218-6581/8/4/82>.

*Basic format for report or other online material with no author name*

"Title of report," Company, Date if given, accessed on date (optional). [Online]. Available: url site/path/file.

[13] "The state of world fisheries and aquaculture: contributing to food security and nutrition for all," FAO, 2016. [Online]. Available: <http://www.fao.org/3/a-i5555e.pdf>.

*Basic Format for Standards:*

*Title of Standard*, Standard number, date.

[14] *IEEE Criteria for Class IE Electric Systems*, IEEE Standard 308, 1969.

[15] *Letter Symbols for Quantities*, ANSI Standard Y10.5-1968.

**First A. Author** (M’76–SM’81–F’87) (first.author@university.edu) bio should be brief (3-4 lines) and include current affiliation: employer or university and job title. Job titles are capitalized. The current job must have a location; previous positions may be listed without one. 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 the degree was earned. The author’s major field of study should be lower-cased. The final details should include current areas of research. Please do not include information about publications, patents or awards. The *Magazine* does not include photos.

**Second B. Author** (second.author@university.edu) has been an Assistant Professor with the Mechanical Engineering Department, Texas A&M University, College Station, TX since 2017. He received the B.S. and M.S. degrees in aerospace engineering from the University of Virginia, Charlottesville, Virginia in 2010 and the Ph.D. degree in mechanical engineering from Drexel University, Philadelphia, PA in 2015. From 2015 to 2017, he was a Post-doctoral Research Assistant with the Princeton Plasma Physics Laboratory. His research interests include high-pressure and high-density nonthermal plasma discharge processes and applications, microscale plasma discharges, discharges in liquids, spectroscopic diagnostics, plasma propulsion, and innovation plasma applications.

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