Paper Title (ACA Title)

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Abstract (ACA Component Head)

Purpose: This document defines the format for the papers in the proceedings of the ACA 2023 conference.

Methodology: The "live" template shows the various components of the paper (title, text, heads, etc.), which are defined as styles in the word processor and embedded in the file. The template is written itself in the layout of a paper.

Findings: The authors can simply paste their unformatted text into the various sections of the template. The added text picks up the defined format. Alternatively, a specific style can be allocated to any text in the file.

Research Limitations: Writing hints given in the template cannot substitute a course in scientific writing. Numbering is manual.

Practical Implications: The template can be used with Microsoft Word and LibreOffice.

Social Implications: The proceedings are offered free of charge to readers. At the same time, there are no publication fees for authors. This combination is called Platinum Open Access and is viable only if authors deliver their manuscript in a form ready for publication based on detailed formatting requirements as given here.

Value and Originality: The approach should help to save effort and time for all involved.

Keywords (ACA Component Head)

science, writing, paper, format, style, layout, template, word, processor (ACA Text)

1   Introduction (ACA Text Head Level 1)

An electronic paper template is set up for ease of use when formatting individual papers and for conformity of style throughout a paper and among papers in a journal or conference. This template was created in Microsoft Word 2003 (*.doc) and can be used also in Word 2007 (*.docx) as well as in LibreOffice (*.odt). The template provides authors with most of the formatting specifications, needed for preparing electronic versions of their paper. This template has its roots in templates used by IEEE (http://www.ieee.org) for its journals.

Find out how to make styles visible in your word processor and how to allocate these styles to your text. Paper size, margins, line spacing, and type styles are built into this template. Examples of the styles are provided throughout this

document. The names of the "ACA Styles" that have been used are given in parentheses. Various table text styles are provided and should be sufficient even for a more complicated table layout. However, each paper may come with special formatting requirements. Here, the authors will have to define new layouts, extending the given once.

The fundamental layout is this: The first paragraph of text following a heading is automatically formatted with "ACA Text". Starting with the second paragraph (initiated by pressing the return key), formatting is done automatically with "ACA Text Indent". The last paragraph before a new heading has to be finished with one extra line.

Download this file from http://purl.org/cabinair/template (DOC) and see http://purl.org/cabinair/styles (PDF) for details on the styles. The author's paper will be uploaded by the conference organizers as an individual document to https://zenodo.org/communities/aircraftcabinair, where it is given a Digital Object Identifier (DOI) and is archived. Also an upload of your presentation is possible in your organization's layout. The proceedings as a collection of papers will be disseminated further, similar to the ACA 2017 proceedings. Authors are encouraged to go for a peer reviewed journal publication based on the ACA conference publication.

It is the author's responsibility to ensure that the rights of any third parties to any material used in their presentation have been respected.

2 Basic Considerations (ACA Text Head Level 1)

2.1 Selecting Paper Size and Margin Width (ACA Text Head Level 2)

First, confirm that you have the correct paper size and margin width. Required is A4 paper size (21 cm x 29.7 cm). Margin width is 3 cm for top and bottom and 2 cm for the left and the right margin.

2.2 Maintaining the Integrity of the Style Specifications

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. These are deliberate. Anticipate your paper as one part of the entire conference proceedings. Please do not revise any of the current designations. The styles are defined in a hierarchy. A lower hierarchy inherits parameter from the higher hierarchy. Please refer to http://purl.org/cabinair/styles (PDF) for further details on style definition and usage.

3 Prepare Your Paper before Styling

You can write your text directly into the template, substituting given text with your text. Alternatively, you can first write and save the content of your paper as a separate text file. This is the method described here. Keep your initial text and your graphic files separate. Limit the use of tabs, blanks and returns in an attempt to pre-style your manuscript. Number text heads, equations, tables and figures, because the template does not do this for you. Never refer to some text by a page number but by the section number. Never refer to a figure or table as being located "below" or "above", but by the number. Always consider the possibilities in which way your text could still change during final typesetting. Complete content and organizational editing before styling. Please take note of the items as explained in the following subchapters. Proofread your paper for spelling and grammar. You may use English or US-American spelling, but please be consistent.

3.1 The IMRaD Structure

Please follow the common organizational structure of scientific papers known as IMRaD. The abbreviation stands for Introduction, Method, Results, and Discussion. The introduction is setting the scene, motivates, and usually includes a recap of the state of the art with many references. The method consists e.g. of experiments, constructions, designs, calculations, and simulations and can be followed by the application of the method. This leads to the presentation of

results, which are discussed. The paper finishes with a summary, the conclusions that can be drawn, and the recommendations for further research. Related text can have separate headings "Summary", "Conclusions", "Recommendations" or can be included under combined headings. Examples are "Summary and Conclusions" or "Conclusions and Recommendations". The IMRaD structure is discussed extensively on the Internet from where more information can be drawn.

3.2   Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined at the end of your manuscript. Abbreviations that can be considered very common such as SI, kg, dc or ac do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

3.3   Units

- Use SI units (m, kg, s) as primary units. English units may be used as secondary units (in parentheses). An exception would be the use of English units where they are accepted standards. Examples are e.g. in aviation ft and NM used in special circumstances.
- Avoid combining SI and English units. This often leads to confusion because equations do not balance dimensionally.
- Avoid dimensional equations in which the quantity on the left side results in a certain unit based on the input in certain other units on the right side. If you must use dimensional equations, clearly state the units for each quantity that you use in the equation.
- Do not mix complete spellings and abbreviations of units: "N/m^2" or "Newton per square meter", not "Newton/m^2". Spell out units when they appear in text: "... a few Newtons", not "... a few N".
- Use a zero before decimal points: "0.25", not ".25". Use "cm^3", not "cc".

3.4   Equations

Equations should be edited by using an Equation Editor, not as text and not as graphics. If you still have it, you are suggested to use for Word the Equation Editor 3.0, otherwise use the built-in Word Equation Editor. For LibreOffice you will use LibreOffice Math. Some compatibility to Mathtype is given. Italicize Roman and Greek symbols for variables. Do not italicize constants, functions, or units.

Equations are centered, using a centered tab stop in the middle of the page. Please number equations consecutively. Equation numbers, within parentheses, are positioned flush right, as in (1), using the right tab stop. Punctuate equations with commas or periods when they are part of a sentence, as in

$$\theta = \alpha + \gamma \quad . \tag{1}$$

Be sure that the symbols in your equation have been defined before or immediately following the equation and at the end of your manuscript. To refer to an equation use "Equation (1)" or use simply "(1)", not "Eq. (1)". Use the longer form "Equation (1) ..." at the beginning of a sentence.

3.5   Some Common Mistakes

- The word "data" is plural, not singular. The word "aircraft" is plural and singular. Do not write "aircrafts", it is wrong.
- In American English, commas, semicolons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the

quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)

- The word alternatively is preferred to the word "alternately" (unless you really mean something that alternates).
- Do not use the word "essentially" to mean "approximately" or "effectively".
- Be aware of the different meanings of the homophones "affect" and "effect", "complement" and "compliment", "discreet" and "discrete", "principal" and "principle".
- Do not confuse "imply" and "infer".
- The prefix "non" is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the "et" but a period after the "al" in the Latin abbreviation "et al.".
- The abbreviation "i.e." means "that is", and the abbreviation "e.g." means "for example".

4   Using the Template

After basic text editing has been completed in your original file and all hints from Section 3 are observed, the paper is ready for styling with this template. Duplicate the template file e.g. by using the Save As command. In this newly created template file exchange the template text by your text. Copy the text from your original file and paste it into the template file section by section as unformatted text. In this way, the pasted text takes on the various formats of the template file. If the style is not what you expect, click in the text and select the appropriate ACA Style.

4.1   Authors and Affiliations

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible. Provide the name of your unit (department), your organization (university), your city, and your country. Do NOT for example; post your job titles, positions, academic degrees, zip codes, names of building, street, district, province, or state.

4.2   Abstract

The abstract should be written as a modern structured abstract. This template shows an example. If you think your contribution has no Social Implications, you may want to omit that point. If you prefer to write a conventional abstract in one paragraph, you may do so, but please include statements in your abstract related to the subheadings given in the example above when you write the abstract. Please make sure to state the findings and the outcome. Do not just write in the abstract, what your paper is about.

4.3   Identify the Headings

Headings, or heads, are organizational devices that guide the reader through your paper. There are two types: component heads and text heads.

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Abstract, Acknowledgements and List of References and, for these, the correct style to use is "ACA Component Head". Use "ACA Table Figure Caption" for your figure subtitles (below the figure) and for your table heading (above the table).

Text heads organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text head because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the second level head should be used and, conversely, if there are not at least two sub-topics, then no sub-heads should be introduced. Styles named "ACA Text Head Level 1", "ACA Text Head Level 2", and "ACA Text Head Level 3" are prescribed. Do not use more than these three levels. Capitalize each word in a text head, except for function

words: articles, pronouns, prepositions (in, with ...), and conjunctions (and, but ...). You can simply paste you head to https://capitalizemytitle.com (Chicago) and capitalization is done for you.

4.4   Equations

The line with an equation is formatted with "ACA Equation". The equation is centered. Use one tab in front and one tab after the equation. After the second tab, place the equation number right aligned.

4.5   Figures and Tables

Position figures and tables left aligned in the text. This is easy to coordinate with the figure subtitles and table headings. Figure subtitles should be below the figures; table headings should appear above the tables. Here in this text heading and subtitle are called "caption" if they are referred together. Format the caption as shown, with "Figure 1" and "Table 1" bold and colored in RGB: 0/0/255 (Blue). The rest of the caption follows after a tab in normal font and normal black color (please edit manually). The figure and table captions are left and right aligned independent of the width of the figure or the table.

Tables consist of table column heads, subheads, and normal table text. The background of table column heads and subheads is colored with RGB: 182/221/232 (Blue 8 for LibreOffice). Each table has three lines of 1 ½ pt width. These three lines are framing the top and bottom of the table and the bottom of the table heads. These lines are colored with RGB 0/0/255 (Blue). The table heads and subheads are separated from each other with a horizontal line of 1 pt width. No lines are used in the main body of the table. See **Table 1** as an example. **Table 2** shows an example of a table with a simpler layout.

Try to insert figures and tables <u>after</u> they are cited in the text for the first time. Use "Figure 1" and "Table 1" to refer to each figure and to each table at least once. "Figure 1" and "Table 1" in the text are in bold face and are colored with RGB: 0/0/255 (Blue).

Table 1   Example of a table heading. The table heading is indispensable. (ACA Table Figure Caption)

| Table Column Head	Table Column Head (ACA Table Col Head)				
	Table column subhead (ACA Table Col Subhead)	Subhead	Subhead	Subhead	Subhead
Table Text	Table Text (ACA Table Text)[a]	Table Text	Table Text	Table Text	Table Text
Table Text	Table Text	Table Text	Table Text	Table Text	Table Text

a   Sample of a table footnote. A table footnote is dispensable. (ACA Table Footnote)

Table 2   Example of a table with a layout simpler than Table 1.

Table Column Head	Table Column Head	Table Column Head	Table Column Head	Table Column Head	Table Column Head
Table Text	Table Text (ACA Table Text)	Table Text	Table Text	Table Text	Table Text
Table Text	Table Text	Table Text	Table Text	Table Text	Table Text

Figure Labels: Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity "Mach Number", or "Thrust", not just "M" or "T". If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write "Thrust (N)" not

just "N". Do not label axes with a ratio of quantities and units. For example, write "Temperature (K)", not "Temperature/K". See **Figure 1** as an example.
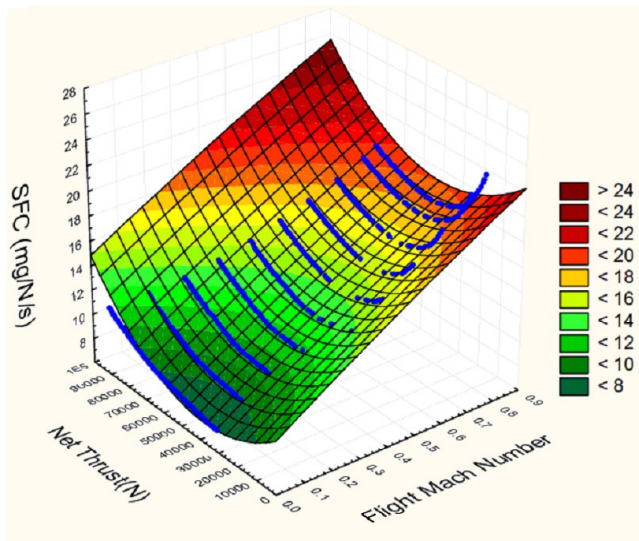
Figure 1   Example of a figure subtitle. The figure subtitle is indispensable. This is an example of a very long figure subtitle. It becomes visible how the text is indented and left and right aligned. Color the start of the subtitle named here "Figure 1" in RGB: 0/0/255.

4.6   Footnotes

Number footnotes in superscripts[1]. This is done automatically in your word processor. The footnote[2] is automatically placed at the bottom of the page on which it was cited. Use "ACA Footnote" to format the footnote and the identifier. Do not put footnotes in the List of References. Use letters for table footnotes (see **Table 1**) and format them with "ACA Table Footnote".

4.7   Submission

Authors should generate a PDF from their document in order to see, if it turns out correctly. It is best, however, to submit the paper produced in the template file (*.doc or *.docx). Only in this way the layout of the file can be checked and adjusted for the conference proceedings if need arises. The PDF can be sent in addition to show the intended layout.

5   Conclusions

The first visual impression of your paper may determine if a potential reader will read your text or not. Good text formatting is the first step to help your reader to understand your scientific content. Proper labeling and referencing should be self-evident for any scientist.

Acknowledgements (ACA Component Head)

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1   This is an example of a footnote. (ACA Footnote)
2   This is an example of another footnote. (ACA Footnote)

cally generate a conflict of interest statement. This statement should be copied here. If the text about possible conflicts of interest becomes too long, a new section called "Conflicts of Interest" should be used and should follow the section "Acknowledgements".

List of References (ACA Component Heads)

All references should be formatted according to the author-date system applying the **Harvard system** as presented in **ISO 690**, Appendix A.2, B and C. You may want to consult the details given under http://ISO690.ProfScholz.de and consider the examples as shown here.

Throughout the text author-date **in-text citation** has to be used. If the creator's name occurs naturally in the text, the year follows in parentheses. Example: Malik (2001) shows that ... If the citation is only added at the end of a sentence, both name and year are in parentheses. Example: This is considered a large deformation (Hu 2004). In citations to particular parts of an information resource, the location of that part (e.g. the page number) may be given after the year within the parentheses. Example: This can be caused by robot manipulation (Ortega 1995, p. 1434). Please note from the example given, how the in-text citation is colored. RGB 0/0/255 is used again.

When preparing the **List of References**, give all authors' names as far as possible; do not use "et al.". Papers that have not been published, even if they have been submitted for publication, should be cited as "[unpublished]". Papers that have been accepted for publication should be cited as "[in production]". Capitalize each word in a paper title, except for function words: articles, pronouns, prepositions (in, with ...), and conjunctions (and, but ...).

If not already known, please retrieve **Digital Object Identifiers** (DOIs) for journal articles, books, and chapters by simply cutting and pasting the list of reference and insert them at http://www.crossref.org/SimpleTextQuery. If that does not work you may want to try a form based query at http://www.crossref.org/guestquery. Please format DOIs as hyperlinks with "ACA Hyperlink 8 pt" as for Malik 2001 and Ortega 1995.

The **examples** below may help you to format your reference list. Malik 2001 is an example for a journal paper, Hu 2004 is an example for conference proceedings, Ortega 1995 is an example for transactions, Wit 2004 is an example for a book, Prasad 1982 is an article or chapter in an edited book, Giambastiani 2007 is an example for a thesis, Wu 1994 is an example for an article in proceedings, Auld 2013 is an example for an article from the Internet, Wright 1906 is an example for a patent.

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List of Symbols (ACA Component Heads)

α   angle of attack
γ   flight path angle
θ   pitch attitude

About the Authors (ACA Component Head)

First A. Author and the other authors have the opportunity to include their very short and strictly formatted biography at the end of the regular paper. This is in line with IEEE papers but otherwise still an unusual practice. The advantage of biographies is to make the publication more open. Biographies a) put the text of the paper in perspective to the experience of the authors, b) provide a small platform for the authors to make themselves better known in the community, c) may satisfy also the curiosity of the readers.

The first paragraph contains the author's educational background. The degree, its typed and field of study should be listed together with the institution, city, state, country and year the degree was earned. The author's major field of study should be lower-cased.

The second paragraph uses the pronoun of the person (he or she) and lists work experience in chronological order. Job titles are capitalized. The current job should be given with a location. Previous positions may be listed without much detail. Current research interests end the paragraph.

The third paragraph begins with the author's title and last name (e.g., Dr. Smith, Prof. Jones, Mr. Kajor, Ms. Hunter). It is included only if the author would like to state activities at past Aircraft Cabin Air conferences. Biographies not following these strict rules will be reformatted by the editors or deleted. The editors have little means of checking the accuracy of biographies and cannot take any responsibility of their correctness. Following are two examples of an author's biography.

Second B. Author received the B.S. and M.S. degrees in aerospace engineering from the University of Virginia, Charlottesville in 2004 and the Ph.D. degree in mechanical engineering from Drexel University, Philadelphia, PA, in 2011.

From 2004 to 2007, he was a Research Assistant with the Princeton Plasma Physics Laboratory. Since 2012, he has been an Assistant Professor with the Mechanical Engineering Department, Texas A&M University, College Station. His research interests include plasma propulsion and innovative plasma applications.

Third C. Author received the B.S. degree in mechanical engineering from National Chung Cheng University, Chiayi, Taiwan in 2007 and the M.S. degree in mechanical engineering from National Tsing Hua University, Hsinchu, Taiwan in 2009. He is currently pursuing the Ph.D. degree in mechanical engineering at Texas A&M University, College Station.

From 2011 to 2012, he was a Research Assistant with Texas A&M University. His research interest includes fundamental studies of plasma sources.