The Name of the Title is Hope

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A clear and well-documented \LaTeX{} document is presented as an article formatted for publication by ACM in a conference proceedings or journal publication. Based on the “acmart” document class, this article presents and explains many of the common variations, as well as many of the formatting elements an author may use in the preparation of the documentation of their work.

CCS Concepts: \→ Do Not Use This Code \→ Generate the Correct Terms for Your Paper: Generate the Correct Terms for Your Paper; Generate the Correct Terms for Your Paper; Generate the Correct Terms for Your Paper;

Additional Key Words and Phrases: Do, Not, Us, This, Code, Put, the, Correct, Terms, for, Your, Paper

ACM Reference Format:


1 INTRODUCTION

ACM’s consolidated article template, introduced in 2017, provides a consistent \LaTeX{} style for use across ACM publications, and incorporates accessibility and metadata-extraction functionality necessary for future Digital Library endeavors. Numerous ACM and SIG-specific \LaTeX{} templates have been examined, and their unique features incorporated into this single new template.

If you are new to publishing with ACM, this document is a valuable guide to the process of preparing your work for publication.

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© 2018 Association for Computing Machinery. 0730-0301/2018/8-ART111 $15.00 https://doi.org/XXXXXXX.XXXXXXX
Frequently-used parameters, or combinations of parameters, include:

- **anonymous, review**: Suitable for a “double-blind” conference submission. Anonymizes the work and includes line numbers. Use with the `\acmSubmissionID` command to print the submission’s unique ID on each page of the work.
- **authorversion**: Produces a version of the work suitable for posting by the author.
- **screen**: Produces colored hyperlinks.

This document uses the following string as the first command in the source file:

```
\documentclass[acmtog]{acmart}
```

### 3 MODIFICATIONS

Modifying the template — including but not limited to: adjusting margins, typeface sizes, line spacing, paragraph and list definitions, and the use of the `\vspace` command to manually adjust the vertical spacing between elements of your work — is not allowed.

**Your document will be returned to you for revision if modifications are discovered.**

### 4 TYPEFACES

The “acmart” document class requires the use of the “Libertine” typeface family. Your \TeX installation should include this set of packages. Please do not substitute other typefaces. The “lmodern” and “ltimes” packages should not be used, as they will override the built-in typeface families.

### 5 TITLE INFORMATION

The title of your work should use capital letters appropriately - https://capitalizemytitle.com/ has useful rules for capitalization. Use the `\title` command to define the title of your work. If your work has a subtitle, define it with the `\subtitle` command. Do not insert line breaks in your title.

If your title is lengthy, you must define a short version to be used in the page headers, to prevent overlapping text. The title command has a “short title” parameter:

```
\title[short title]{full title}
```

### 6 AUTHORS AND AFFILIATIONS

Each author must be defined separately for accurate metadata identification. Multiple authors may share one affiliation. Authors’ names should not be abbreviated; use full first names wherever possible. Include authors’ e-mail addresses whenever possible.

Grouping authors’ names or e-mail addresses, or providing an “e-mail alias,” as shown below, is not acceptable:

```
\author{Brooke Aster, David Mehldau}
\email{dave,judy,steve@university.edu}
\email{firstname.lastname@phillips.org}
```

The `\authornote` and `\authornoteauthor` commands allow a note to apply to multiple authors — for example, if the first two authors of an article contributed equally to the work.

If your author list is lengthy, you must define a shortened version of the list of authors to be used in the page headers, to prevent overlapping text. The following command should be placed just after the last `\author` definition:

```
\renewcommand{\shortauthors}{McCartney, et al.}
```

Omitting this command will force the use of a concatenated list of all of the authors’ names, which may result in overlapping text in the page headers.

The article template’s documentation, available at https://www.acm.org/publications/proceedings-template, has a complete explanation of these commands and tips for their effective use.

Note that authors’ addresses are mandatory for journal articles.

### 7 RIGHTS INFORMATION

Authors of any work published by ACM will need to complete a rights form. Depending on the kind of work, and the rights management choice made by the author, this may be copyright transfer, permission, license, or an OA (open access) agreement.

Regardless of the rights management choice, the author will receive a copy of the completed rights form once it has been submitted. This form contains \TeX commands that must be copied into the source document. When the document source is compiled, these commands and their parameters add formatted text to several areas of the final document:

- the “ACM Reference Format” text on the first page.
- the “rights management” text on the first page.
- the conference information in the page header(s).

Rights information is unique to the work; if you are preparing several works for an event, make sure to use the correct set of commands with each of the works.

The ACM Reference Format text is required for all articles over one page in length, and is optional for one-page articles (abstracts).

### 8 CCS CONCEPTS AND USER-DEFINED KEYWORDS

Two elements of the “acmart” document class provide powerful taxonomic tools for you to help readers find your work in an online search.

The ACM Computing Classification System — https://www.acm.org/publications/class-2012 — is a set of classifiers and concepts that describe the computing discipline. Authors can select entries from this classification system, via https://dl.acm.org/ccs/ccs.cfm, and generate the commands to be included in the \TeX source.

User-defined keywords are a comma-separated list of words and phrases of the authors’ choosing, providing a more flexible way of describing the research being presented.

CCS concepts and user-defined keywords are required for all articles over two pages in length, and are optional for one- and two-page articles (or abstracts).

### 9 SECTIONING COMMANDS

Your work should use standard \TeX sectioning commands: section, subsection, subsubsection, and paragraph. They should be numbered; do not remove the numbering from the commands.

Simulating a sectioning command by setting the first word or words of a paragraph in boldface or italicized text is not allowed.
Table 1. Frequency of Special Characters

<table>
<thead>
<tr>
<th>Non-English or Math</th>
<th>Frequency</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø</td>
<td>1 in 1,000</td>
<td>For Swedish names</td>
</tr>
<tr>
<td>π</td>
<td>1 in 5</td>
<td>Common in math</td>
</tr>
<tr>
<td>$</td>
<td>4 in 5</td>
<td>Used in business</td>
</tr>
<tr>
<td>Ψ^2</td>
<td>1 in 40,000</td>
<td>Unexplained usage</td>
</tr>
</tbody>
</table>

10 TABLES
The “acmart” document class includes the “booktabs” package — https://ctan.org/pkg/booktabs — for preparing high-quality tables. Table captions are placed above the table.

Because tables cannot be split across pages, the best placement for them is typically the top of the page nearest their initial cite. To ensure this proper “floating” placement of tables, use the environment `table` to enclose the table’s contents and the table caption. The contents of the table itself must go in the `tabular` environment, to be aligned properly in rows and columns, with the desired horizontal and vertical rules. Again, detailed instructions on `tabular` material are found in the `LATEX` User’s Guide.

Immediately following this sentence is the point at which Table 1 is included in the input file; compare the placement of the table here with the table in the printed output of this document.

To set a wider table, which takes up the whole width of the page’s live area, use the environment `table*` to enclose the table’s contents and the table caption. As with a single-column table, this wide table will “float” to a location deemed more desirable. Immediately following this sentence is the point at which Table 2 is included in the input file; again, it is instructive to compare the placement of the table here with the table in the printed output of this document.

Always use midrule to separate table header rows from data rows, and use it only for this purpose. This enables assistive technologies to recognise table headers and support their users in navigating tables more easily.

11 MATH EQUATIONS
You may want to display math equations in three distinct styles: inline, numbered or non-numbered display. Each of the three are discussed in the next sections.

11.1 Inline (In-text) Equations
A formula that appears in the running text is called an inline or in-text formula. It is produced by the `math` environment, which can be invoked with the usual `\begin{math} . . . \end{math}` construction or with the short form `\$. . . \$`. You can use any of the symbols and structures, from α to ω, available in `LATEX` [Lamport 1986]; this section will simply show a few examples of in-text equations in context. Notice how this equation: \[\lim_{n \to \infty} x = 0\] (1)
looks slightly different when set in display style. (See next section).

11.2 Display Equations
A numbered display equation—one set off by vertical space from the text and centered horizontally—is produced by the `equation` environment. An unnumbered display equation is produced by the `displaymath` environment.

Again, in either environment, you can use any of the symbols and structures available in `LATEX`; this section will just give a couple of examples of display equations in context. First, consider the equation, shown as an inline equation above:

\[\lim_{n \to \infty} x = 0\] (1)

Notice how it is formatted somewhat differently in the `displaymath` environment. Now, we’ll enter an unnumbered equation:

\[
\sum_{i=0}^{\infty} x + 1
\]

and follow it with another numbered equation:

\[
\sum_{i=0}^{\infty} x_i = \int_0^{\pi+2} f
\]

just to demonstrate `LATEX`’s able handling of numbering.

12 FIGURES
The “figure” environment should be used for figures. One or more images can be placed within a figure. If your figure contains third-party material, you must clearly identify it as such, as shown in the example below.

![1907 Franklin Model D roadster. Photograph by Harris & Ewing, Inc. [Public domain], via Wikimedia Commons.](https://goo.gl/VLCRBB)

Your figures should contain a caption which describes the figure to the reader.

Figure captions are placed below the figure.

Every figure should also have a figure description unless it is purely decorative. These descriptions convey what’s in the image to someone who cannot see it. They are also used by search engine crawlers for indexing images, and when images cannot be loaded.

A figure description must be unformatted plain text less than 2000 characters long (including spaces). **Figure descriptions should**
not repeat the figure caption – their purpose is to capture important information that is not already provided in the caption or the main text of the paper. For figures that convey important and complex new information, a short text description may not be adequate. More complex alternative descriptions can be placed in an appendix and referenced in a short figure description. For example, provide a data table capturing the information in a bar chart, or a structured list representing a graph. For additional information regarding how best to write figure descriptions and why doing this is so important, please see https://www.acm.org/publications/taps/describing-figures/.

12.1 The “Teaser Figure”
A “teaser figure” is an image, or set of images in one figure, that are placed after all author and affiliation information, and before the body of the article, spanning the page. If you wish to have such a figure in your article, place the command immediately before the \maketitle command:

\begin{teaserfigure}
\includegraphics[width=\textwidth]{sampleteaser}
\caption{figure caption}
\end{teaserfigure}

13 CITATIONS AND BIBLIOGRAPHIES
The use of \TeX for the preparation and formatting of one’s references is strongly recommended. Authors’ names should be complete — use full first names (“Donald E. Knuth”) not initials (“D. E. Knuth”) — and the salient identifying features of a reference should be included: title, year, volume, number, pages, article DOI, etc.

The bibliography is included in your source document with these two commands, placed just before the \end{document} command:

\bibliographystyle{ACM-Reference-Format}
\bibliography{bibfile}

where “bibfile” is the name, without the “.bib” suffix, of the \TeX file.

Citations and references are numbered by default. A small number of ACM publications have citations and references formatted in the “author year” style; for these exceptions, please include this command in the preamble (before the command “\begin{document}”)

\citestyle{acmauthoryear}
\citetitle{Harel 1979}, a divisible-book such as an anthology or compilation [Editor 2007] followed by the same example, however we only output the series if the volume number is given [Editor 2008] (so Editor00n’s series should NOT be present since it has no vol. no.), a chapter in a divisible book [Spector 1990], a chapter in a divisible book in a series [Douglass et al. 1998], a multi-volume work as book [Knuth 1997], a couple of articles in a proceedings (of a conference, symposium, workshop for example) (paginated proceedings article) [Andler 1979; Hagerup et al. 1993], a proceedings article with all possible elements [Smith 2010], an example of an enumerated proceedings article [Gundy et al. 2007], an informally published work [Harel 1978], a couple of preprints [Anzaroot et al. 2014; Bornmann et al. 2019], a doctoral dissertation [Clarkson 1985], a master’s thesis: [Anisi 2003], an online document / world wide web resource [Ablamowicz and Fauser 2007; Poker-Edge.Com 2006; Thornburg 2001], a video game (Case 1) [Obama 2008] and (Case 2) [Novak 2003] and [Lee 2005] and (Case 3) a patent [Scientist 2009], work accepted for publication [Rous 2008], ‘YYYYb’-test for prolific author [Saeedi et al. 2010a] and [Saeedi et al. 2010b]. Other cites might contain ‘duplicate’ DOI and URLs (some SIAM articles) [Kirschmer and Voight 2010], Boris / Barbara Beeton: multi-volume works as books [Hörmander 1985b] and [Hörmander 1985a]. A couple of citations with DOIs: [IEEE 2004; Kirschmer and Voight 2010]. Boris / Barbara Beeton: multi-volume works as books [Hörmander 1985b] and [Hörmander 1985a]. A couple of citations with DOIs: [IEEE 2004; Kirschmer and Voight 2010].

14 ACKNOWLEDGMENTS
Identification of funding sources and other support, and thanks to individuals and groups that assisted in the research and the preparation of the work should be included in an acknowledgment section, which is placed just before the reference section in your document. This section has a special environment:

\begin{acks}
\end{acks}
so that the information contained therein can be more easily collected during the article metadata extraction phase, and to ensure consistency in the spelling of the section heading.

Authors should not prepare this section as a numbered or unnumbered \section; please use the “\acks” environment.

15 APPENDICES
If your work needs an appendix, add it before the “\end{document}” command at the conclusion of your source document.

Start the appendix with the “\appendix” command:

\appendix
and note that in the appendix, sections are lettered, not numbered. This document has two appendices, demonstrating the section and subsection identification method.

16 MULTI-LANGUAGE PAPERS

Papers may be written in languages other than English or include titles, subtitles, keywords and abstracts in different languages (as a rule, a paper in a language other than English should include an English title and an English abstract). Use language=... for every language used in the paper. The last language indicated is the main language of the paper. For example, a French paper with additional titles and abstracts in English and German may start with the following command

\documentclass[sigconf, language=english, language=german, language=french]{acmart}

The title, subtitle, keywords and abstract will be typeset in the main language of the paper. The commands \texttt{translatedXXX}, \texttt{translatedYYY} begin title, subtitle and keywords, can be used to set these elements in the other languages. The environment \texttt{translatedabstract} is used to set the translation of the abstract. These commands and environment have a mandatory first argument: the language of the second argument. See sample-sigconf-113n.tex file for examples of their usage.

17 SIGCHI EXTENDED ABSTRACTS

The ”\texttt{sigchi-a}” a template style (available only in \LaTeX) and not in Word) produces a landscape-orientation formatted article, with a wide left margin. Three environments are available for use with the ”\texttt{sigchi-a}” template style, and produce formatted output in the margin:

- \texttt{sidebar}: Place formatted text in the margin.
- \texttt{marginfigure}: Place a figure in the margin.
- \texttt{margintable}: Place a table in the margin.

ACKNOWLEDGMENTS

To Robert, for the bagels and explaining CMYK and color spaces.

REFERENCES


Sam Anzaroot, Alexandre Passos, David Belanger, and Andrew McCallum. 2014. Learning Soft Linear Constraints with Application to Citation Field Extraction. arXiv:1403.1349

Lutz Bornmann, K. Brad Wray, and Robin Haunschild. 2019. Citation concept analysis (CCA)—A new form of citation analysis revealing the usefulness of concepts for other researchers illustrated by two exemplary case studies including classic books by Thomas S. Kuhn and Karl R. Popper. arXiv:1905.12410 [cs.DL]


Donald E. Knuth. 1996). The name of the title is Hope

ACM Trans. Graph., Vol. 37, No. 4, Article 111. Publication date: August 2018.
A.1 Part One

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi male-
suada, quam in pulvinar varius, metus nunc fermentum urna, id
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risus, et lacinia dolor. Integer ultricies commodo sem nec semper.

A.2 Part Two

Etiam commodo feugiat nisl pulvinar pellentesque. Etiam auctor
sodales ligula, non varius nibh pulvinar semper. Suspendisse nec
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at laoreet eros. Vivamus non purus placerat, scelerisque diam eu,cursus ante. Etiam aliquam tortor auctor efficitur mattis.

B ONLINE RESOURCES

Nam id fermentum dui. Suspendisse sagittis tortor a nulla mollis,in
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sagittis enim maximus. Vestibulum gravida massa ut felis suscipit
congue. Quisque mattis elit a risus ultrices commodo venenatis eget
dui. Etiam sagittis eleifend elementum.

Nam interdum magna at lectus dignissim, ac dignissim lorem
rhoncus. Maecenas eu arcu ac neque placerat aliquam. Nunc pul-
vinar massa et mattis lacinia.

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