

ACM Article Preparation for SIGGRAPH: A User Guide.

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Figure 1: Drumheller Fountain, The University of Washington, Seattle WA.

ABSTRACT

Authors with content accepted to an event sponsored by ACM SIGGRAPH must prepare documentation of the work to be presented. This document will guide them through the process of preparing that documentation.

KEYWORDS

ACM article template, L^AT_EX, Microsoft Word

ACM Reference Format:

Stephen Spencer. 2017. ACM Article Preparation for SIGGRAPH: A User Guide.. In *Proceedings of Conference Name*. ACM, New York, NY, USA, ?? pages. <https://doi.org/10.1145/8888888.7777777>

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Conference Name, Conference Date and Year, Conference Location

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ACM ISBN 978-1-4503-1234-5/17/07.

<https://doi.org/10.1145/8888888.7777777>

1 INTRODUCTION

ACM's article template — also known as "acmart" — is available for authors to use in preparing the documentation of the work they are presenting at an ACM-sponsored event.

It is a major revision of the previous template, and incorporates many of the SIG-specific changes that have been made to it, into a single, consolidated version.

ACM expects all authors to use this article template for the preparation of their documentation, regardless of the event or the kind of documentation they are preparing — full-length or short paper, abstract, etc.

In addition to the consolidation of various versions of the previous template, this template also makes significant changes to the document's metadata, in an effort to more accurately and flexibly represent content in the Digital Library.

This document — this "user guide" — is meant to help you to prepare an acceptable document for publication. It should not stand alone; ACM has significant and relevant resources at <https://www.acm.org/publications/proceedings-template> that you should use. (Note: In this document, the preceding URL is assumed when mention is made of a resource available "...at ACM.")

2 GETTING STARTED: LATEX (AND OVERLEAF) VS. MICROSOFT WORD

LATEX and Microsoft Word are the two supported document preparation systems for the ACM article template. You must use one of these two applications to prepare your documentation. Information about the article template – downloads, documentation (including videos), and other information – is available at <https://www.acm.org/publications/proceedings-template>.

The easiest way to use the LATEX version of the template is to install and/or update one of the prebuilt TeX development environments – MacTeX or TeX Live 2016 or MiKTeX – and the “acmart” template and all of the other prerequisite packages will be installed for you.

If you want to install the packages yourself, the LATEX user guide available from ACM lists all of the packages you must install.

ACM has partnered with Overleaf to provide an online and collaborative environment for using LATEX to prepare a document. More information and a link to the Overleaf template is available from ACM.

Microsoft Word users should download the appropriate version of the template from ACM – Macintosh 2011 or 2016, or Windows – and install all of the font files included in the package. There are version-specific user guides and instructional videos also available there.

The use of LATEX is strongly recommended.

3 TOP-LEVEL DOCUMENT STYLE

Articles prepared for publication for an issue of the ACM TOG journal must use the acmtog document style. If you are not preparing an article for publication in an issue of the ACM TOG journal, you must use the sigconf document style.

(If you are preparing documentation for a sponsored event, like Web3D or VRST, use sigconf. If you are preparing a Poster abstract, or a Panel summary, or a Technical Brief, or an Emerging Technologies abstract... use sigconf. The only people who should be using acmtog are those people preparing full-length technical papers for the SIGGRAPH or SIGGRAPH Asia conferences.)

LATEX users specify the document style as a parameter to the \documentclass{} command. Microsoft Word users select the document style from the template, when the document is ready to be formatted by the template.

4 THE TITLE

The title of your work should be prepared with appropriate capitalization. The title should not be set in all caps, nor should just the first word of the title be capitalized. A handy reference for capitalization can be found at <http://www.grammarbook.com/punctuation/capital.asp>.

If your title is lengthy, you will need to use a shortened version of the title for the page headers, so that the title and conference information in the page headers do not overlap. LATEX users can use the “short title” parameter of the \title{} command to define both the short and full versions of the title:

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

5 AUTHORS AND AFFILIATIONS

The ACM article template requires that each author and affiliation is defined separately. Accurate representation of authors and affiliations results in accurate metadata capture.

LATEX users should use the \author command for the author’s name, and the affiliation command for the affiliation, as shown in this example:

```
\author{Revinu Jitis Drofnats}
\affiliation{%
  \department{Computer Science Department}
  \institution{Stanford University}
  \city{Stanford}
  \state{CA}}
\email{rj.drofnats@stanford.edu}
```

The LATEX user guide available at <https://www.acm.org/publications/proceedings-template> goes into much more detail about the available fields and parameters used to prepare the author and affiliation information.

LATEX users must also define the author string to be used in page headers, with this command:

```
\renewcommand{\shortauthors}{STRING}
```

where “STRING” is a length-appropriate list of authors:

- William Evans
- Fischer and Müller
- Sandusky, Ray, and Davis
- Hobart, et al.

The number of authors per row can be adjusted by the LATEX user with this command:

```
\settopmatter{authorsperrow=N}
```

where “N” is the desired number of authors in a single row of the formatted document. The default value of “N” is 2, but values of 3 or 4 may produce more suitable formatting.

Microsoft Word users should put each author’s information on a separate line, and then tag each of the elements of each line according to the documentation.

6 CCS CONCEPTS AND KEYWORDS

These two elements of your documentation - CCS concepts and keywords - provide valuable information to indexing and search services. It helps people find your work.

ACM’s CCS concepts - available at <https://dl.acm.org/ccs/ccs.cfm> - is a collection of subject-area classifications for the computing field. It is your responsibility to select appropriate classifications from this collection, rank them as high, medium, or low priority, and include the appropriate code in your source document. Both LATEX and Microsoft Word versions of the selected classifications are available, to copy and paste into your source document.

Keywords are user-defined, and allow you to identify specific key words and phrases that describe your work.

7 RIGHTS TEXT

It is your responsibility to complete the rights form for your work **before** preparing the final version of the documentation of your work, because it is your responsibility to include the appropriate

rights information in your documentation, and you get that information when you have completed the form.

When you complete the rights form, you'll receive a link to a copy of the completed form in your Web browser and are e-mailed that same document (both are PDFs). In it, you will find:

- (1) A set of \LaTeX commands to be copied and pasted into the preamble of your document, and
- (2) A neatly-formatted “plain text” version of the rights information.

If you are using Microsoft Word to prepare your documentation, you will see a dialog box immediately after the selection of the appropriate template style – either “sigconf” or “acmtog” – which prompts you to enter the rights information into its fields. You’ll copy and paste the information – conference name, location, DOI, ISBN, etc. – from that “plain text” version of the rights information into the dialog box.

Please note that this document, like the other samples available from the “siggraph.org” site, has “sample” rights information in it.

```
\copyrightyear{2017}
\acmYear{2017}
\setcopyright{rightsretained}
\acmConference[Conference Name]
  {Conference Date and Year}{Conference Location}
\acmDOI{10.1145/8888888.7777777}
\acmISBN{978-1-4503-1234-5/17/07}
```

\LaTeX users will find the same commands, with parameters specific to the event to which they’ve had content accepted, in the rights form, and must replace this sample rights information with the commands from their rights form. The Microsoft Word template does not have any “sample” rights information in it, as the author is asked for this information during the document creation process.

This rights information is also used to prepare the “ACM Reference format” block of text, which is a required element. Please do not suppress this element, or attempt to type it in yourself.

8 PAGE HEADERS

A properly-formatted document will have headers on each page after the first; even pages will have the conference information on the left, and author information on the right. Odd pages will have the title on the left, and the conference information on the right.

The information used by the template in the preparation of the page headers is taken from the document. Proper identification of the conference, the authors, and the title of the work is vitally important for the proper construction of the page headers.

\LaTeX users will note that if defined, the “short title” is used as the title in the page headers, and the value of “\shortauthors” is used as the author information in the page headers. The conference information is taken from the rights information you’ve entered in the preamble of the document.

9 SECTIONING COMMANDS

When preparing your documentation, it is important to structure the presented information with the sectioning tools provided by either \LaTeX or Microsoft Word: section, subsection, subsubsection,

Conference Name, Conference Date and Year, Conference Location

and so on. Additionally, both programs offer a number of environments for creating itemized and enumerated lists.

The previously-accepted practice of creating ones’ own sectioning, through the use of boldface or italicized text at the start of a paragraph is **no longer permitted**. (This is the so-called “bold paragraph hack.”)

Implementation Details Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet.

Hardware and Software Donec ac metus consectetur, venenatis magna sit amet, viverra sapien. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos.

While the visual appearance of those two paragraphs may suggest a section-like structure, the underlying metadata sees only a pair of paragraphs. ACM is looking to the future of document storage and display in the Digital Library, and an accurate metadata-level description of documents is key to that future. A well-structured PDF can be converted to XML and stored, and displayed in numerous ways to meet the needs of specific output devices: PDF, HTML5, ePub formats, and so on.

Articles with the “bold paragraph hack” will be returned to the author for revision.

10 PREPARING THE REVIEW VERSION OF YOUR WORK

If you are submitting an article for “double-blind” review, you must take certain steps to anonymize the article, to make the review process impartial and easier to complete.

Author and affiliation information should be removed from the work, page numbers and line numbers added, and the submission ID should appear on each page of the work.

- \LaTeX users should make two changes to their source document:
- Change the \documentclass{} command to include three parameters: “anonymous,” “timestamp,” and “review,” in addition to the “acmtog” or “sigconf” parameter.
 - Add the \acmSubmissionID{} command, with the work’s submission ID as the parameter.

An example for those preparing full-length Technical Papers for SIGGRAPH or SIGGRAPH Asia follows, assuming the submission ID value of 554 was given to you by the submission system:

```
\documentclass[anonymous,
  timestamp, review, acmtog]{acmart}
\acmSubmissionID{554}
```

Please read the Call for Participation for your specific event and program; this “anonymization” may not be required.

11 CITATIONS AND REFERENCES

ACM recognizes two distinct citation and reference formats in their publications: numbered, and “author year.” SIGGRAPH uses the “author year” citation and reference format.

\LaTeX users must add the following command to the preamble of their source document:

```
\citestyle{acmauthoryear}
```

Microsoft Word users must select “Namedate References” when formatting the reference section of their document, and make sure the citation labels match those generated by the template.

Articles with numbered citations and references will be returned for revision.

Author names in references should include complete first names and surnames, not initials. References should not be overly abbreviated.

12 FIGURES AND TABLES

Figures and tables should be centered in the column. Column-spanning figures and table are allowed. Captions must appear **below** the figure, and **above** the table, as shown below.

Figures which include third-party material must include the identification of that material as third-party material in the caption of the figure, per ACM policy. The following example shows how it can be done.

12.1 A Figure Example.

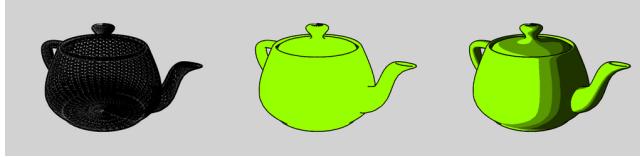


Figure 2: Cel-shaded teapots. Image by Nicolas Sourd [CC-BY-SA-3.0], via Wikimedia Commons.

```
\begin{figure}[ht]
\centering
\includegraphics[width=\linewidth]{files/teapots}
\caption{Cel-shaded teapots. Image by Nicolas Sourd [CC-BY-SA-3.0], via Wikimedia Commons.}
\end{figure}
```

12.2 A Table Example.

Table 1: Soccer, or football?

Team	P	W	D	L	F	A	Pts
Manchester United	6	4	0	2	10	5	12
Celtic	6	3	0	3	8	9	9
Benfica	6	2	1	3	7	8	7
FC Copenhagen	6	2	1	3	5	8	7

```
\begin{table}[ht]
\centering
\caption{Soccer, or football?}
\label{soccer}
\begin{tabular}{l*{6}{c}}
Team & P & W & D & L & F & A & Pts \\
\hline
Manchester United & 6 & 4 & 0 & 2 & 10 & 5 & 12 \\
Celtic & 6 & 3 & 0 & 3 & 8 & 9 & 9 \\
\hline
\end{tabular}
\end{table}
```

```
Benfica & 6 & 2 & 1 & 3 & 7 & 8 & 7 \\
FC Copenhagen & 6 & 2 & 1 & 3 & 5 & 8 & 7 \\
\end{tabular}
\end{table}
```

12.3 Teaser Figures.

A “teaser” figure can be placed between the author / affiliation information and before the body of the work, and this figure should span both columns.

LATEX users should use the “`teaserfigure`” command, and place this command before the “`\maketitle`” command:

```
\begin{teaserfigure}
\centering
\includegraphics[width=6.0in]{files/fountain}
\caption{Drumheller Fountain,
The University of Washington, Seattle WA.}
\end{teaserfigure}
```

13 PSEUDOCODE AND ALGORITHMS.

Several robust **LATEX** packages for displaying algorithms and code exist, and authors are welcome to use any of them.

- “`algorithm2e`” - <http://www.ctan.org/pkg/algorithm2e>.
- “`algorithms`” - <http://www.ctan.org/pkg/algorithms>.
- “`listings`” - <http://www.ctan.org/pkg/listings>.

Authors will need to include the package they wish to use; none of these are included by default in the “`acmart`” package.

Microsoft Word users should tag algorithms and code with the “`algorithm`” tag.

14 SAMPLE FILES.

The appendices to this document are minimal-yet-complete **LATEX** and Bib**LATEX** files, and the resulting PDF document. They serve as visual examples of a working set of source files, and the resulting output file.

ACKNOWLEDGMENTS

The Acknowledgements section of your documentation is the place to thank those who made a significant contribution to the work. Funding agencies and sponsors are often recognized in this section.

It should be an un-numbered top-level section. **LATEX** users must use the `acks` environment:

```
\begin{acks}
...
\end{acks}
```

This section of the user guide is, in fact, typeset with the `acks` environment.

A A MINIMAL L^AT_EX TEMPLATE.

The following L^AT_EX source document is an illustrative, if minimal, example of how a source document should look. All of the major elements of a well-formatted document are present.

```
\documentclass[sigconf]{acmart}

% The next six lines come directly from the completed rights form.
% You MUST replace them with the lines specific to your accepted work.
\copyrightyear{2017}
\acmYear{2017}
\setcopyright{rightsretained}
\acmConference{Conference Name}{Conference Date and Year}{Conference Location}
\acmDOI{10.1145/888888.777777}
\acmISBN{978-1-4503-1234-5/17/07}

% Use the "authoryear" citation style.
\citestyle{acmauthoryear}

% A useful command for controlling the number of authors per row.
% The default value of "authorsperrow" is 2.
\settopmatter{authorsperrow=4}

% end of preamble.

\begin{document}

% Title.
% If your title is long, consider \title[short title]{full title} - "short title" will be used for running heads.
\title[Short Title!]{This Is The Full Title of My Work}

% Authors.
\author{John DeJohnette}
\affiliation{%
  \department{Department of Computer Science and Engineering}
  \institution{University of Minnesota}}
\email{johnd@umn.edu}

\author{Brittany Rowland-Smith}
\affiliation{%
  \institution{St. Olaf College}}
\email{br-s@gmail.com}

\author{Nicholas Badeeri}
\affiliation{%
  \institution{MathWorks, Inc.}}
\email{badeeri@mathworks.com}

\author{Andrew Joseph Foyt}
\affiliation{%
  \department{College of Engineering}
  \institution{University of Houston}}
\email{foyt_aj@uh.edu}

% This command defines the author string for running heads.
\renewcommand{\shortauthors}{DeJohnette, Rowland-Smith, Badeeri, and Foyt}

% abstract
```

```
\begin{abstract}
```

This minimal document contains examples of many of the elements of an abstract or technical paper, including multiple authors, CCS concepts and keywords, sections and subsections, figures, and citations and references.

Of particular note to authors preparing work for publication at an event sponsored by ACM SIGGRAPH is the citation and reference style; although the ACM article default is for numbered citations and references, we use the ``author year'' citation and reference style.

```
\end{abstract}
```

```
%CCS
```

```
\begin{CCSXML}
<ccs2012>
<concept>
<concept_id>10010147.10010371.10010372</concept_id>
<concept_desc>Computing methodologies~Rendering</concept_desc>
<concept_significance>500</concept_significance>
</concept>
<concept>
<concept_id>10010147.10010371.10010372.10010374</concept_id>
<concept_desc>Computing methodologies~Ray tracing</concept_desc>
<concept_significance>500</concept_significance>
</concept>
</ccs2012>
\end{CCSXML}
```

```
\ccsdesc[500]{Computing methodologies~Rendering}
\ccsdesc[500]{Computing methodologies~Ray tracing}
```

```
%keywords
```

```
\keywords{ray tracing, global illumination, octrees, quadtrees}
```

```
% A "teaser" figure, centered below the title and authors and above the body of the work.
```

```
\begin{teaserfigure}
  \centering
  \includegraphics[width=6.0in]{fountain}
  \caption{Drumheller Fountain, The University of Washington, Seattle WA.}
\end{teaserfigure}
```

```
% Processes all of the front-end information and starts the body of the work.
```

```
\maketitle
```

```
\begin{document}
```

```
\section{Introduction}
```

Lore ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet. Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\section{Exposition}
```

```
\subsection{Background}
```

Lore ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet.~\cite{Kajiya:1986:RE:15922.15902} Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\subsection{Current Status}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet. Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\subsubsection{One Viewpoint}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet. Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\subsubsection{Another Viewpoint}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet. Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\section{Conclusions and Future Work}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet. Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\begin{acks}
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce auctor accumsan nulla, vitae pharetra ipsum sagittis sit amet. Donec ac metus consectetur, venenatis magna sit amet, viverra sapien.

```
\end{acks}
```

```
\bibliographystyle{ACM-Reference-Format}
```

% assumes ``mybibliography.bib'' is the BibTeX source file.

```
\bibliography{mybibliography}
```

```
\end{document}
```

B A MINIMAL BIBTeX FILE.

This is the “mybibliography.bib” file referenced by the sample L^AT_EX file above.

```
@inproceedings{Kajiya:1986:RE:15922.15902,
  author = {Kajiya, James T.},
  title = {The Rendering Equation},
  booktitle = {Proceedings of the 13th Annual Conference on Computer Graphics and Interactive Techniques},
  series = {SIGGRAPH '86},
  year = {1986},
  isbn = {0-89791-196-2},
  pages = {143--150},
  numpages = {8},
  url = {http://doi.acm.org/10.1145/15922.15902},
  doi = {10.1145/15922.15902},
  acmid = {15902},
  publisher = {ACM},
  address = {New York, NY, USA},
}
```

C A MINIMAL PDF.

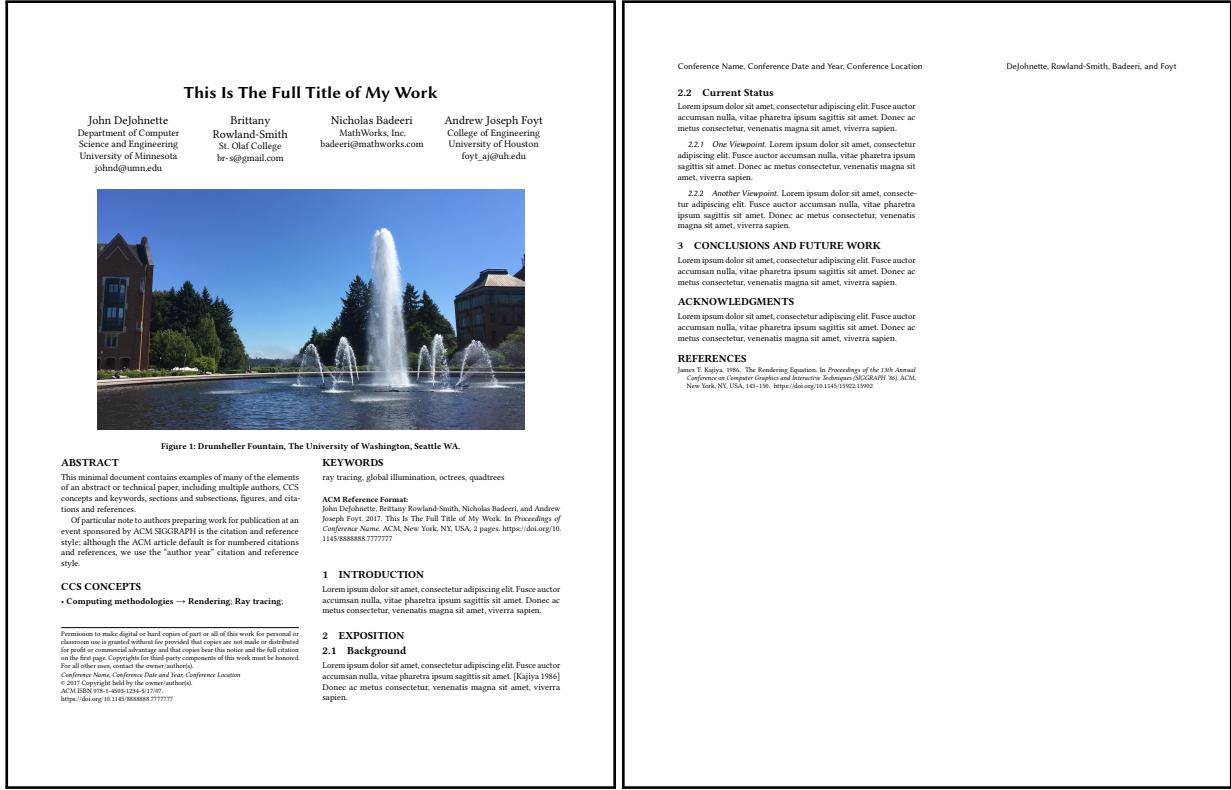


Figure 3: This is the PDF document produced from the sample **L^AT_EX** and **Bib^TE_X** files.