

Author Instructions for Papers and Abstracts

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1 Introduction

This document provides information and links to external resources to authors preparing content for presentation at an ACM SIGGRAPH-sponsored event. Your content may be a one-page abstract, a short paper or technical brief, or a full-length technical paper; the formatting guidelines are very nearly identical. The differences are few, and clearly identified.

2 Glossary of Terms

There are a number of terms that will be used in this document. You probably know most of them, or have at least heard of them, but it's good to have clear definitions.

ACM SIGGRAPH's parent organization, the Association for Computing Machinery.

SIGGRAPH Our flagship conference, held annually in North America. Also the name of our parent organization. (SIGGRAPH = Special Interest Group on Computer Graphics and Interactive Techniques)

SIGGRAPH Asia Our other flagship conference, held annually in Southeast Asia.

sponsored event A conference, workshop or symposium that has the financial backing of the SIGGRAPH organization. In the context of this document, it is an event that is not one of our two flagship conferences.

Submission and Authorization Agreement A document completed by all contributors to our flagship conferences, which defines the organization's use and distribution of the contributor's content.

copyright form A document completed by authors of technical papers accepted to our flagship conferences or our other sponsored events.

permission and release form A document completed by authors of abstracts of content accepted to our flagship conferences or our other sponsored events.

auxiliary material Material prepared by the contributor, in addition to their primary piece of content (paper, abstract, poster, etc.) which is distributed with that content and which helps to illustrate the concepts presented. Still images and movies are the most-often supplied types of auxiliary material.

third-party content Any content used in an abstract, paper, or auxiliary material not created by the authors.

ACM Digital Library (or just "DL") The primary repository for material published by ACM. <http://www.acm.org/dl>

3 Formatting Your Content

The specifications and descriptions in this document are sufficient for preparing an acceptable abstract or paper.

It is strongly recommended that you use the "acmsiggraph" \LaTeX class, available from the following link, and the \LaTeX application to prepare your abstract or paper. The formatting will be taken care of for you with this \LaTeX class. We do not require that you use \LaTeX , though most do.

<http://www.siggraph.org/publications/acmsiggraph.zip>

The archive file contains the \LaTeX and $\text{BIB}\TeX$ class files, Makefiles for preparing a PDF from the \LaTeX source file, a template source file, and formatted example PDF.

3.1 General Organization

Your paper should include the following elements, in this order:

- title and author information
- abstract
- CR Categories
- keywords
- hyperlinked icons
- body of the paper
- references

The template source file - the "template.tex" file - should be closely examined, especially the preamble; there are several important definitions you must make that are specific to your paper. Two versions of this example file are included in the "acmsiggraph.zip" archive; "template.annotated.tex" contains copious documentation of each of the commands and definitions specific to the "acmsiggraph" \LaTeX class, and "template.tex" is clear of that documentation. The code in each file, however, is identical.

If you are preparing an abstract, the "keywords" and "CR categories" are optional. The "hyperlinked icons" are only to be used in papers accepted to our annual conferences. Papers and "technical briefs" (short papers) should include all of these elements, except the hyperlinked icons.

3.2 Formatting Requirements

- page size: 8.5 inches by 11.0 inches (US Letter)
- top margin: 0.75 inch
- bottom margin: 1.0 inch
- left margin: 0.75 inch
- right margin: 0.75 inch
- number of columns: 2
- column height: 9.25 inches
- column width: 3.33 inches
- space between columns (gutter): 0.34 inch
- vertical space between paragraphs: 10pt
- paragraph indentation: none

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- copyright space: varies (see below)
- title and author text: centered above the two columns of body text

Please do not include page numbers in your paper or abstract; they will be added during production, once the content has been ordered according to the final program for the event.

3.3 Typeface Requirements

- body text: 9-point serif (Times, etc.) on 10-point leading (line spacing)
- title: 14-point sans-serif (Helvetica, etc.) on 18-point leading
- authors and affiliations: 10-point serif on 12-point leading
- section heading: 10-point bold sans-serif, numbered (“1”)
- subsection heading: 10-point bold sans-serif, numbered (“1.2”)
- subsubsection heading: 10-point italic sans-serif, numbered (“1.2.1”)
- caption label: 9-point bold serif
- caption text: 9-point italic serif
- references: 9-point serif on 10-point leading, 2em indent for second and subsequent lines, author names in “SMALL CAPS”

Important: All typefaces used in your document must be embedded in your PDF.

Important: Adjustment of the typeface size and style, line spacing, paragraph spacing and indentation, and margins is prohibited.

3.4 Copyright Space

The amount of space to leave for the copyright text is one of the few differences in formatting among the varying kinds of content.

Most of the content accepted for presentation at our sponsored events and published by ACM requires copyright transfer, and an appropriate block of text will be added to your paper during production. You will need to leave a blank space at the base of the left column on the first page of your paper for this block of text.

If your paper has been accepted for presentation at one of our annual conferences, and will be published in an issue of the ACM “Transactions on Graphics” journal, the space must be 1.5 inches tall.

If you are using L^AT_EX, please use the “annual” parameter in the “\documentclass” command at the top of your source file:

```
\documentclass[annual]{acmsiggraph}
```

If your paper has been accepted for presentation at one of our annual conferences - a “technical brief” or “games paper” - or at a sponsored event that is not one of our two annual conferences, the space must be 1 inch tall.

If you are using L^AT_EX, please use the “sponsored” parameter in the “\documentclass” command at the top of your source file:

```
\documentclass[sponsored]{acmsiggraph}
```

If your content is an abstract (up to four pages in length), you need not leave any blank space; the text to be added to your content will be placed underneath the left column on the first page.

If you are using L^AT_EX, please use the “abstract” parameter in the “\documentclass” command at the top of your source file:

```
\documentstyle[abstract]{acmsiggraph}
```

(The careful observer will have surmised that I used the “acmsiggraph” L^AT_EX class to prepare this document, and used the “abstract” parameter, leaving no space for any copyright text.)

Figure 1 provides a visual reference to the three parameters and the space left clear as a result of using each of the parameters.

Important: if you are using L^AT_EX, you must include the “\copyrightspace” command immediately before the first “\section” command in your paper. The example L^AT_EX file - “template.tex” - illustrates this command’s placement, and the command, when executed, will use the amount of space defined by each of the three parameters.

If you are using some other application to prepare your paper or abstract, and need to leave space clear for the copyright notice, you may wish to prepare your content without that space, and insert a column break at the appropriate place. The amount of blank space is measured from the bottom of the column of text, not from the bottom of the page.

If you are at all unsure about how much space to leave clear, please ask. This issue, and typeface embedding, are the most common issues that authors must address after delivering their final content and they are checked during the production phase.

3.5 Title, Authors, and Affiliations

The title and author information for your paper should be centered across the top of the (first) page, and should include full names, company or institutional affiliation, and e-mail address.

Capitalize the title of your paper in an appropriate manner. Rules for capitalization can be found at the following link:

<http://www.grammarbook.com/punctuation/capital.asp>

To illustrate, here are three examples:

No. EXPLORING MOBILE EYE-TRACKING FOR OBSERVATIONAL RESEARCH ON THE FLIGHT DECK

No. Exploring mobile eye-tracking for observational research on the flight deck

Yes. Exploring Mobile Eye-Tracking for Observational Research on the Flight Deck

3.6 Keywords and CR Categories

Your paper should have appropriate keywords and CR categories, which will be used to index the paper in various online databases, and helps others to find your paper.

Keywords are user-selected, and should describe the major topics of your paper - radiosity, global illumination, graphcut, filtering, etc.

CR categories are ACM’s official classification system, and the complete list of the categories is available from the following link:

<http://www.acm.org/about/class/1998/>

(Computer Graphics is “L.3” - that’s a good starting place.)

The “acmsiggraph” L^AT_EX class, and the sample L^AT_EX document provided with it have commands which assist in the definition and formatting of keywords and CR categories:

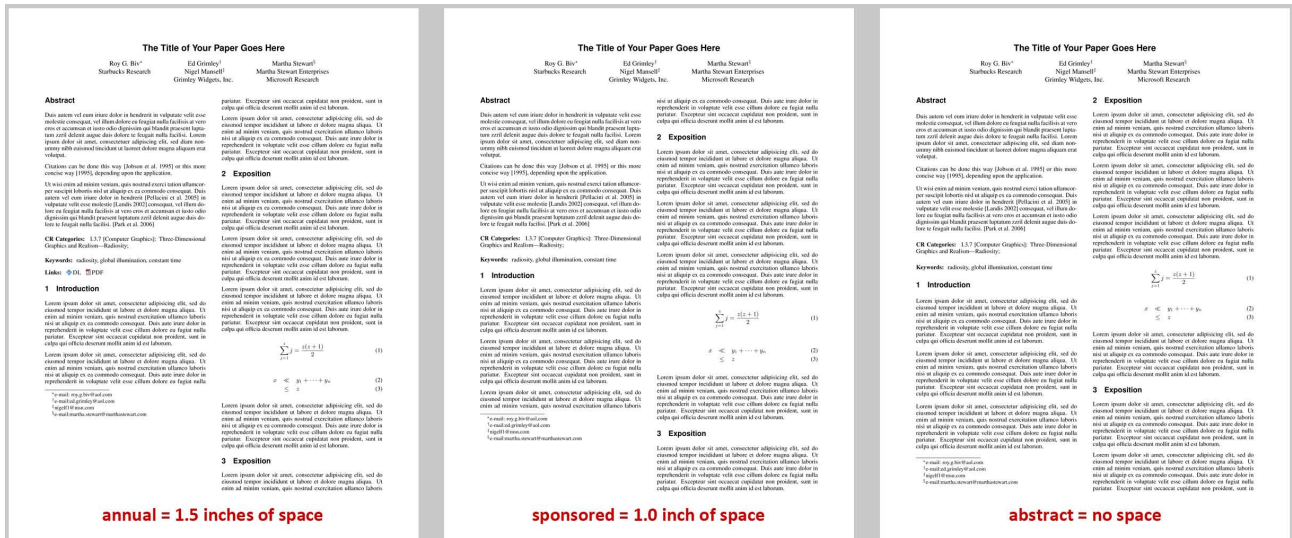


Figure 1: Illustration of varying amounts of space left clear for the ACM copyright notice, for the three possible parameters given to the “\documentclass” command. Left is “annual,” middle is “sponsored,” and right is “abstract.”

- `\keywords{}` allows the comma-separated list of keywords
- the `\keywordlist` command prints out the keywords
- `\CRcat{}` allows the hierarchical definition of a CR category specific to your content
- the `\CRcatlist{}` environment collects and prints the defined categories

3.7 Annual Conference Paper Hyperlinks

If your paper has been accepted for presentation at one of our two annual conferences - SIGGRAPH or SIGGRAPH Asia - and it will be published in an issue of the ACM “Transactions on Graphics” journal, there are hyperlinked icons that should be included in your paper.

These hyperlinked icons were introduced in 2011, and provide quick links from the electronic version of a technical paper to the ACM DL page for that paper, as well as to author-provided auxiliary material.

After your paper has been accepted, and before the due date of your paper, you will receive the “article DOI” for your paper, a numeric code which will point the reader to the ACM DL page for your paper. This numeric code will have seven digits, a period, and seven more digits.

The “acmsiggraph” L^AT_EX class includes this functionality. Please example the “template.tex” file, looking at the “\TOG” definitions in the preamble of the document, and the placement of the “\TOGlinkslist” command.

If you are using another program to prepare your final paper, and need to include the hyperlinked icons, you should follow these instructions:

- position: Just before the first section of the body of your paper
- size: approximately 0.13 inch tall
- typeface: 9-point serif SMALL CAPS style, with “Links:” set in bold.

- labels: please use “DL,” “PDF,” “Web,” “Video,” “Data,” and “Code” for the labels.

- hyperlinks: for the “DL” icon, please use this link, where “X” is the article DOI you received:
<http://doi.acm.org/10.1145/X>

- hyperlinks: for the “PDF” icon, please use this link, where “Y” is the second set of seven digits from the article DOI:
http://portal.acm.org/ft_gateway.cfm?id=Y&type=pdf

- hyperlinks: if you wish to use any of the other hyperlink icons, you should provide links to your own resources.

An example of a properly-formatted list of hyperlinked icons is shown in the figure below.

iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi [Park et al. 2006].

Keywords: radiosity, global illumination, constant time

Links: DL PDF WEB VIDEO DATA CODE

1 Introduction

Citations can be done in two ways depending on the application: (1) Excellent progress has been made [Jobson et al. 1995], or (2) Jobson et al. [1995] have made excellent progress.

Figure 2: Visual example of hyperlinked icons for annual conference papers.

The “DL” and “PDF” hyperlink icons are required for annual conference papers. The other hyperlink icons are optional.

If your technical paper is not being published in the ACM “Transactions on Graphics” journal, you should not be using these hyperlinked icons.

3.8 Figures and Tables

Color and gray-scale figures in your paper should be prepared as 300 dpi TIFF or EPS files, using the CMYK color space. The JPEG format is lossy, and is not recommended for high-quality image reproduction.

If you have text in your figures or tables, please make sure the application that created them embeds the typeface(s) used in them.

Captions for figures should be placed underneath the figure.

Captions for tables should be placed above the table.

4 Third-Party Content

Third-party content is, as is stated in the glossary of terms, “any content used in an abstract, paper, or auxiliary material not created by the authors.”

If you are going to use third-party material in your content, you will need to make sure you have permission to use that material, identify the material in the paper and on the copyright form, and deliver documentation of the permission you received to ACM, accompanying your copyright form.

ACM’s policy and procedures for handling third-party material can be found at the following link:

<http://www.acm.org/publications/third-party-material>

5 “Artistic Images” and Copyright Transfer

ACM’s copyright policy mandates that copyright for the paper and its contents - third-party content aside - by transferred to ACM as a condition of publication.

http://www.acm.org/publications/policies/copyright_policy

An exception is allowed for images or figures in your content which have “...independent artistic value.” You or your employer may retain copyright to those images or figures which you created for some purpose other than to illustrate a point in the content, and wish to exploit in other contexts.

(An example of this might be a still image from a Pixar film that illustrates the research that you, as a Pixar employee, worked on and helped to implement as part of the making of that film.)

If your content has such exceptional images, you must grant ACM permission to use them in the context of your content in current and future formats, identify them on the copyright form and in the content itself, by including the owner’s copyright notice within the image itself and/or in the figure’s caption.

6 Citations and References

6.1 Citations

The ACM SIGGRAPH citation format is the familiar “author year” format. The year is separated from the author by a single space - [Yee 2000]. If the article has two authors, their last names are used, separated by the word “and” - [Lennon and McCartney 1964]. If the article has three or more authors, the primary author’s last name, followed by “et al.” are used - [Fedkiw et al. 2001].

Multiple citations at a single point in the document are separated by semicolons - [Fedkiw et al. 2001; Yee 2000].

When the last name of the author is used in the text, it may be omitted from the citation, leaving only the year - “...as shown in Fedkiw et al. [2001], the coefficient remains...”

L^AT_EX users can use “\cite{citekey}” to produce the longer citation form, and “\shortcite{citekey}” to produce the shorter citation form.

6.2 References

The reference list, or bibliography, must be unnumbered, alphabetized by primary author’s last name, with the authors’ names set in small caps, followed by the year of publication, followed by other information. The page number, if any, appears last in the reference. Author names are arranged as “last name, initials.” The second and successive lines of a reference are indented by 2em. Journal, book, thesis, and conference proceedings titles, as well as journal volumes, are set in italic serif type.

The “acmsiggraph” B^IB^TE_X class faithfully implements these specifications, and the reference list at the conclusion of the “template.pdf” document illustrates the specifications.

Please note: adjustment of the typeface size and style, line spacing, paragraph spacing, indentation, or margins is not permitted.

6.3 SIGGRAPH Papers

References to papers presented at our flagship conferences - SIGGRAPH and SIGGRAPH Asia - should be prepared in the following manner: the conference name - “SIGGRAPH” or “SIGGRAPH Asia” - followed by a single space, and then either the last two digits of the calendar year if the conference was held prior to the year 2000, and all four digits of the calendar year if the conference was held in 2000 or later. Please capitalize the term “SIGGRAPH.” Please do not include an apostrophe before two-digit year designations.

Additionally, please note that in 1993, 2002, and again in 2007, changes were made in the reference format, reflecting changes in the ordering of the Proceedings Series, ACM’s partnership with the ACM Transactions on Graphics journal, and finally, ACM’s “Online First” initiative. More information on this initiative can be found at the following link:

<http://doi.acm.org/10.1145/1284621.1284637>

7 PDF Document Preparation

The printed and electronic documentation for our sponsored events are prepared from Adobe Acrobat PDF documents. This is the format in which your final content should be delivered. (Auxiliary material, discussed in the next section, is a separate issue.)

Extenuating circumstances may necessitate the delivery of your final content in some other format - PostScript or Word, for example - but this will be done on a case-by-case basis.

The method you choose to prepare the PDF version of your final content is your decision. There are several methods that are commonly used:

(L^AT_EX) dvips and ps2pdf This workflow is several steps but is robust.

This command converts a L^AT_EX “.dvi” file to PostScript, with scalable Type 1 typefaces, with a “US Letter” (8.5 inches by 11 inches) page size.

```
dvips -Ppdf -G0 -t letter -o paper.ps paper.dvi
```

This command converts a PostScript file to PDF, embedding typefaces and *not* downsampling or subsampling the images in the file during the conversion to PDF.

```
ps2pdf -dPDFSETTINGS=/prepress \
-dCompatibilityLevel=1.4 \
-dAutoFilterColorImages=false \
-dAutoFilterGrayImages=false \
-dColorImageFilter=/FlateEncode \
-dGrayImageFilter=/FlateEncode \
-dMonoImageFilter=/FlateEncode \
-dDownsampleColorImages=false \
-dDownsampleGrayImages=false \
paper.ps paper.pdf
```

(L^AT_EX) pdftex and pdfL^AT_EX This is a newer and more convenient workflow, though you may need to adjust one or more configuration files in order to ensure that typefaces are properly embedded.

Googling “updmap embed typeface” will return lots of relevant results.

If you are on a Linux system, running the “updmap –edit” command and ensuring that the parameter sent to “pdftex-DownloadBase14” is “true” should be sufficient.

If you are on a Windows system, you’ll want to find your “updmap.cf” file and make that change, if necessary, with a text editor.

Adobe Acrobat This application integrates PDF creation into many other applications, including Microsoft Word and Adobe InDesign. You will want to install and use a specific “job options” file which will embed typefaces. That file can be found at the following link:

<http://www.sheridanprinting.com/typedept/acm.joboptions>

and should be installed into Adobe Acrobat Distiller from the “Settings > Add Adobe PDF Settings” menu.

It is extremely important to note that all of the typefaces you use in your document must be embedded in the PDF. This is an ACM requirement for publication.

The Adobe Reader application can be used to verify the status of typefaces in your PDF document; access the “File > Properties” menu item, and then select the “Fonts” tab. Each typeface listed in this window should have either “Embedded” or “Embedded Subset” next to it. If not, that typeface is not embedded.

The “pdffonts” application (Linux and Macintosh) can be used to verify the status of typefaces in your PDF document; there should be an “yes” in the “emb” column for each typeface. If not, that typeface is not embedded.

8 Author-Prepared Versions of Final Content

ACM’s copyright policy provides for author-prepared versions of final content to be made available on the author’s personal or employer’s website for distribution.

The author is responsible for creating the article-specific notice and making it part of the PDF. Here is an example (your article-specific notice would have the correct publication title, volume, number, year, month, and ACM article DOI):

```
(c) 2009 ACM. This is the author’s version of the work.
It is posted here by permission of ACM for your personal
use. Not for redistribution. The definitive version was
published in ACM Transactions on Graphics 28(3),
August 2009. <http://doi.acm.org/10.1145/1576246.1531329>.
```

Adding this to an existing PDF document is not difficult to do. The Adobe Acrobat Pro application has a “stamp tool” that can be used for this purpose.

9 Auxiliary Material

Material accepted for presentation at an ACM SIGGRAPH-sponsored event may be accompanied by material intended to enhance the presentation and understanding of the content. This “auxiliary” material - still images, animation files (Quicktime, AVI, MPEG), etc. - will accompany the primary material in conference deliverables (CD-ROM, USB stick) and in the ACM Digital Library.

Authors of technical papers accepted to our annual conferences should know that the “papers video” is now considered “auxiliary” material and should be delivered as or with the rest of your auxiliary material.

Most sponsored events have an online conference management system (SIS, “precisionconference.com,” etc.) which allows for the uploading of auxiliary material. Should the CMS being used for an event **not** allow this, auxiliary material - or a link to it - can be e-mailed directly to Stephen Spencer at “spencer@cs.washington.edu.”

10 Resources

This document, the “acmsiggraph.zip” file, and numerous examples are available from the following link:

<http://www.siggraph.org/publications/instructions>

11 Contact Information

If you have any questions about this document, or about the preparation of your content, or have suggestions for improving this document, please let me know. My e-mail address is “spencer@cs.washington.edu” and I can be reached by telephone at +1-206-616-3281.