1 INTRODUCTION

This document describes the formatting guidelines for the preparation of the camera-ready final submission of proceedings papers for ICED19 using LATEX. We aim to produce the conference proceedings with utmost professionalism and high quality. We will be grateful if you carefully follow the instructions outlined in this document. This template with LaTeX instructions is itself formatted as required for paper submission.[1]

For the camera-ready final submission, we require you to submit a revised paper after taking into account all the reviewers' comments. **This submission must be done electronically** in two formats – TEX and PDF. Before uploading the files, please spare some time to read all the instructions in this template. **The cover page for the paper** containing the title of the paper, names of authors, affiliations of authors, abstract and keywords for the paper **will be produced automatically** from the ConfTool conference management system, based on the data that you enter in the ConfTool (for that reason please double-check information that you insert in ConfTool). Therefore, the document that you upload in the ConfTool should commence with the Introduction section as in this template. Please note that the uploaded document, commencing with the Introduction section until the References section, Acknowledgments or Appendix, as appropriate for the authors, should not exceed **a maximum of nine (9) pages**. Importantly, this document should NOT contain the title of the paper, names of authors and affiliations, abstract or keywords. For easing the preparation of the proceedings, please ensure that the **document you upload contains an odd number of pages**.

In order to produce conference proceedings of a professional and consistent quality, this template is protected and cannot be modified. If the document is based on another template or if this template is modified, the manuscript will be returned to the authors for correction and reformatting.

2 LaTeX TEMPLATE

It is assumed that the authors are familiar with plain TeX, LaTeX, $\mathcal{A}_{\mathcal{M}}\mathcal{S}$-TeX or a standard latex set-up, hence, only the essential points are described in this document. To get more details, please go through the *LaTeX User's Guide* or *The Not so Short Introduction to LaTeX 2$_\varepsilon$* (which is available online).

This template uses a class file named `ICED-Paper.cls` which the authors should use during their manuscript preparation. The `ICED-Paper.cls` is similar to the `article.cls` of LaTeX, with only few additional changes in the preamble portion. All the options in `article.cls` are available with this class file, and by default it will produce all elements single spaced throughout the document. By default, ICED-Paper class file produces unnumbered references.

The `ICED-Paper.cls` has to be copied into a directory where LaTeX looks for input files. The other files have to be kept as a reference during the preparation of your manuscript.

3 HOW TO START USING ICED-PAPER.CLS

Before you type anything that actually appears in the paper, you need to include a `\documentclass{ICED-Paper}` command at the very beginning and then, the two commands that have to be part of any LaTeX document, `\begin{document}` at the start and the `\end{document}` at the end of your paper. The main structure of your document should be as follows:

Box 1: Structure of a document.

```
\documentclass{ICED-Paper}

\begin{document}

\section{....}
...
\subsection{....}
....
\end{document}
```

[1] Please try to avoid footnotes. If absolutely necessary, use the tag `\footnote{text}`.

4 PAPER LAYOUT AND STYLES

All settings like paper size, margins and styles are embedded in this template. You do not have to make any document settings. The page size is 210 mm x 297 mm (DIN A4), the margins are: top 20 mm, bottom 25 mm, left 30 mm, right 20 mm and gutter 0 mm. Please **don't** add page numbers!

4.1 Styles overview

The styles provided in this template for Body text and Default Paragraph Font are Times New Roman, 11 pt, justified. Line spacing is single spaced. To be used for all body text. Please note that there is no line space between normal paragraphs.
If passages of your text shall appear **bold** or in *italics*, use the "`\textbf{text}`" or "`\textit{text}`" tags, respectively. However, please be aware that formatting changes to **bold** or *italic* afterwards can be changed only by deleting the format tags.
Please use the following styles for equations, figure captions and table captions:

Equations (Equation Number)

Times New Roman, italics, 11 pt, flush left, left indent 8 mm, space before 6 pt, after 6 pt, tabulator at right. To be used for the Equations. See also Section 5.5.

Figure Caption

Arial 10 pt, italic, centered, space before 6 pt, after 6 pt. Left and right indent 8 mm. To be used for figure captions. See also Section 5.2.

Table Caption

Arial 10 pt, italic, centered, space before 6 pt, after 6 pt. Left and right indent 8 mm. To be used for table captions. See also Section 5.3.
Note: The template has automatic numbering of figures, tables and equations.
Subscript and superscript: $A_1{}^2$

5 HEADING 1: SECTION

Arial black, 11 pt, all caps, flush left, space before 12 pt. To be used for section headers.
The coding for section is `\section{text}`. This will generate the section number automatically. Use the starred form (`\section*{text}`) of the command to suppress the automatic numbering, but as a default, use the numbering style used in this document. If you want to make cross-references to the section levels, use the `\label` and `\ref` command. You can have sections up to three levels.

5.1 Heading 2: Sub-section

Arial bold, 11 pt, flush left, space before 12 pt. To be used for sub-section headers.
The sub-section (Heading 2) command is `\subsection`.

5.1.1 Heading 3: Sub-sub-section

Arial bold italic, 10 pt, flush left, space before 12 pt. To be used for sub-sub-section headers.
The Sub-sub-section (Heading 3) command is `\subsubsection`.

REFERENCES AND ACKNOWLEDGMENTS HEADS

Arial bold, 11 pt, all caps, flush left. To be used for headers of references and acknowledgments. Note that sections on References and Acknowledgments do not contain any section number.
Acknowledgments and other unnumbered sections are created using the `\section*` command:
`\section*{Acknowledgments}`

5.2 Figures

Use the default LaTeX coding to insert figures. Figure environment should be inserted after the end of the paragraph, nearest to the citation.

The coding for figure is as follows:

```
\begin{figure}
\centering{\includegraphics{fig1}}
\caption{Example of a figure\label{fig1}}
\end{figure}
```

The figures should be numbered Figure 1, Figure 2, etc., and should be referenced in the main text using Figure with an initial capital letter.

As always with LaTeX, the `\label` must be after the `\caption`, and inside the figure environment. The reference for figures inside text can be made using the `\ref{key}` command.

Figure 1. Example of a figure

5.3 Tables

Use the 'Table Caption' style for the table headers. The tables should be numbered Table 1, Table 2, etc., and should be referenced in the main text using Table with an initial capital letter.
The coding for table is as follows:

```
\begin{table}
\processtable{Example of a table\label{tab1}}
{\begin{tabular*}{\textwidth}{@{\extracolsep{\fill}}lllll@{}}
\toprule
Column head 1 & Column head 2 & Column head 3 &
Column head 4 & Column head 5\\
\midrule
Table body & Table body & Table body  & Table body  & Table body  \\
Table body & Table body & Table body  & Table body  & Table body  \\
\botrule
\end{tabular*}}{Table footnote.}
\end{table}
```

Table 1. Example of a table

Column head 1	Column head 2	Column head 3	Column head 4	Column head 5
Table body	Table body	Table body	Table body	Table body
Table body	Table body	Table body	Table body	Table body

Table footnote.

As always with LaTeX, the `\label` must be after the `\caption`, and inside the table environment. The reference for tables inside text can be made using the `\ref{key}` command.

5.4 Lists

Another frequently displayed structure is a list. There are various types of lists: numbered, itemized and bulleted list.
The coding for bulleted list is as follows:

```
\begin{itemize}
\item Bulleted list 1
\item Bulleted list 2
\item Bulleted list 3
\end{itemize}
```

The coding for numbered list is as follows:

```
\begin{enumerate}
\item Numbered list 1
\item Numbered list 2
\item Numbered list 3
\end{enumerate}
```

The coding for unnumbered list is as follows:

```
\begin{description}
\item Description list 1
\item Description list 2
\item Description list 3
\end{description}
```

5.5 Equations

Equations are used in the same way as described in the LaTeX Manual. Equations are numbered consecutively, with equation numbers in parentheses flush right.
For example, if you type

```
\begin{equation}\label{eq1}
\int^{r_2}_0 F(r,\varphi){\rm d}r\,{\rm d}\varphi = [\sigma r_2/
(2\mu_0)]\int^{\infty}_0\exp(-\lambda|z_j-z_i|)\lambda^{-1}J_1
(\lambda r_2)J_0 (\lambda r_i\,\lambda {\rm d}\lambda)
\end{equation}
```

then you will get the following output:

$$\int_0^{r_2} F(r,\varphi)\mathrm{d}r\,\mathrm{d}\varphi = [\sigma r_2/(2\mu_0)]\int_0^{\infty}\exp(-\lambda|z_j - z_i|)\lambda^{-1}J_1(\lambda r_2)J_0(\lambda r_i\,\lambda\mathrm{d}\lambda) \tag{1}$$

$\mathcal{AMS}$-LaTeX has several environments that make it easier to typeset complicated multiline displayed equations. These are explained in the $\mathcal{AMS}$-LaTeX User Guide. A `subequation` environment is available to create equations with sub-numbering of the equation counter. It takes one (optional) argument to specify the way that the sub-counter should appear.

5.6 Quotes and Displayed text

Quotes are indented from the left and right margins. There are short quote, long quote and display poetry.
The coding for short quote is `\begin{quote}...\end{quote}`.

> This is a short quotation. It consists of a single paragraph of text. See how it has been formatted.

The coding for long quote is `\begin{quotation}...\end{quotation}`.

> This is a long quotation. It consists of two paragraphs of text, neither of which are particularly interesting.
>
> This is the second paragraph of the quotation. It is just as dull as the first paragraph.

5.7 Enunciations like Theorem, Lemma, etc.

The $\mathcal{AMS}$-LaTeX package for enunciations (amsthm.sty) has been already loaded in the class file.
To get the theorem environment, use the coding as follows:

```
\begin{theorem}
Theorem text. Theorem text. Theorem text.
Theorem text. Theorem text. Theorem text.
\end{theorem}
```

and `\newtheorem{theorem}{Theorem}` in the preamble.
Similarly, we can define lemma, corollary, proposition, definition, etc.

5.8 Cross-referencing

LATEX provides the following commands for cross-referencing:
`\label{marker}`, `\ref{marker}` and `\pageref{marker}`

where the marker is an identifier chosen by the user. LATEX replaces `\ref` by the number of the section, subsection, figure, table or theorem after which the corresponding `\label` command was issued. `\pageref` prints the page number where the `\label` command occurred.

5.9 Citations

Citations are made with the `\cite` command as usual. In this class file, we have used natbib.sty for cross-references and reference style.
For bibliography, the natbib package has been defined in the template.
More details about natbib.sty can be found at http://ctan.org/tex-archive/macros/latex/contrib/natbib/

5.10 Formatting

One should always use LaTeX macros rather than the lower-level TeX macros like `\it`, `\bf` and `\tt`. The LaTeX macros offer much improved features. The following table summarizes the font selection commands in LaTeX.

5.10.1 LaTeX text formatting commands

`\textit`	Italics	`\textsf`	Sans Serif
`\textbf`	Boldface	`\textsc`	Small Caps
`\texttt`	Typewriter	`\textmd`	Medium Series
`\textrm`	Roman	`\textnormal`	Normal Series
`\textsl`	Slanted	`\textup`	Upright Series

5.10.2 LaTeX math formatting commands

`\mathit`	Math Italics	`\mathfrak`	Fraktur
`\mathbf`	Math Boldface	`\mathbb`	Blackboard Bold
`\mathtt`	Math Typewriter	`\mathnormal`	Math Normal
`\mathsf`	Math Sans Serif	`\boldsymbol`	Bold math for Greek letters
`\mathcal`	Calligraphic		and other symbols

5.11 LaTeX packages

The commonly used packages which can be used frequently are as follows:

`amsmath`	`graphicx`	`rotating`
`amssymb`	`endnotes`	`subfigure`
`amsfonts`	`setspace`	`array`
`xspace`	`latexsym`	`url`
`amscd`	`multicol`	`algorithm`

Additionally, you can use other packages and these should be loaded using the `\usepackage` command in the preamble.

5.12 Other details

- SI units should be used throughout the paper.
- It is very important that you complete the entry for the paper in the conference management system with the information that you wish to be entered in the cover page of the paper (author details, contact address, paper title, abstract and keywords).

5.13 Checklist before submission

Please delete all the comments in the manuscript before submission. All changes in the document must be accepted or rejected before submission. The submitted paper should also not contain any markups.

6 SUBMISSION OF MANUSCRIPT

We aim to make the publication of your paper as easy and free from errors as possible. This template is for both submissions—initial (paper submission for peer reviewing with deadline December 2 (see

also important dates on http://www.iced19.org) and the final, camera-ready submission based on the notification of acceptance.
Please submit your paper electronically through the ConfTool found on the ICED19 website http://iced19.org.
During the first step of the submission procedure via ConfTool, authors will be asked to insert an abstract (max 1200 characters) and include at least 3 and up to five keywords. A minimum of three keywords will be from the predefined list on ConfTool and up to 2 will be of your own choice.

REFERENCES

Citations to published work throughout your paper should be made using the **Harvard** notation, i.e. in the main body of your text including references using the surname(s) of the author(s) and year. For example, a portion of a paper might contain a sentence such as

> This work is grounded in systematic approaches to design (Pahl and Beitz, 1988), building on the work of Jensen and Andreasen (2010), and the affordance-based relational theory developed by Maier and Fadel (2009a, 2009b). Chakrabarti et al. (2011) present an overview of computer-based design synthesis research.

For the use of citation tools the following styles can be used: Citavi—Harvard (Emerald), Endnote—Harvard UL, Mendeley—Emerald journals (Harvard)
Each reference needs to include the Digital Object Identifier (DOI), if the reference has a DOI. The DOI can be found on the source website or in the CrossRef database (www.crossref.org).
Please ensure that every reference cited in the text is also included in the reference list (and vice versa).

The list of references must be sorted in alphabetical order as shown below (based on Harvard referencing style):

Cash, P., Hicks, B. and Culley, S. (2015), "Activity Theory as a means for multi-scale analysis of the engineering design process: A protocol study of design in practice", *Design Studies*, Vol. 38, pp. 1–32. http://dx.doi.org/10.1016/j.destud.2015.02.001

Chakrabarti, A., Shea, K., Stone, R., Cagan, J., Campbell, M.I., Hernandez, N.V. and Wood, K.L. (2011), "Computer-Based Design Synthesis Research: An Overview", *Journal of Computing and Information Science in Engineering*, Vol. 11 No. 2, p. 021003. http://doi.org/10.1115/1.3593409

Maier, J.R.A. and Fadel, G.M. (2009a), "Affordance based design: A relational theory for design", *Research in Engineering Design*, Vol. 20 No. 1, pp. 13–27. http://doi.org/10.1007/s00163-008-0060-3

Maier, J.R.A. and Fadel, G.M. (2009b), "Affordance-based design methods for innovative design, redesign and reverse engineering", *Research in Engineering Design*, Vol. 20 No. 4, pp. 225–239. http://doi.org/10.1007/s00163-009-0064-7

Pahl, G. and Beitz, W. (1996), *Engineering Design: A Systematic Approach*, Springer, Berlin. http://dx.doi.org/10.1007/978-1-4471-3581-4

The following list is useful for full references:

Book: Author, A. (year of publication), *Title of Book*, Publisher, Place of publication. DOI (if present).

Book chapter: Author of chapter, A. (year of publication), "Title of chapter", In: Author A. (Ed.), *Title of Book*, Publisher, Place of publication, pp. (insert page numbers). DOI (if present).

Journal: Author, A. (year of publication), "Title of Article", *Title of Journal*, Vol. X (insert volume number) No.Y (insert issue number), pp. (insert page numbers). DOI (if present).

E-journal: Author, A. (year of publication), "Title of Article", *Title of Journal*, Vol. X (insert volume number) No.Y (insert issue number), Available at: (insert URL without hyperlinks) (accessed date). DOI (if present).

Other Electronic Source: Author, A. (year of publication/last updated), *Title*. [online] Publisher. Available at: (insert URL without hyperlinks) (accessed date). DOI (if present).

Conference Paper: Author, A. (year of publication), "Title of Paper", *Title of Conference*, Location, Date of conference, Publisher, Place of publication, pp. (insert page numbers). DOI (if present).

Report: Organisation/Author (year of publication), *Title of Report*, Publisher, Place of publication.

Thesis: Author, A. (year of publication), *Title of Thesis*, Designation, Awarding institution. DOI (if present).

For in-text citations the following list should be useful:

Book, Book chapter, Journal, E-journal, Other Electronic Source, Conference Paper, Thesis: (Author, year of publication) / (Author1 and Author2, year of publication) / (Author1 et al., year of publication), or Author (year of publication) / Author1 and Author2 (year of publication) / Author1 et al. (year of publication)

Report: (Organisation/Author, year of publication)

The reference entries can be LaTeX-typed bibliographies or generated through a BIBTeX database. BIBTeX is an adjunct to LaTeX that aids in the preparation of bibliographies. BIBTeX allows authors to build up a database or collection of bibliography entries that may be used for many manuscripts. They also save us the trouble of having to specify formatting. More details can be found in the *BIBTeX Guide*. For LaTeX reference entries, use the `\begin{thebibliography}...\end{thebibliography}` environment (see below) to make references in your paper. By default, the class file will produce the unnumbered LaTeX bibliography.

```
\begin{thebibliography}
\bibitem[Bruckstein {\emph{et~al.}}(2009)]{ref1}%
Bruckstein, Alfred M., David L. Donoho, and Michael Elad. 2009.
``From Sparse Solutions of Systems of Equations to Sparse Modelling
of Signals and Images.'' {\emph{SIAM Review}} 51: 34--81.
\bibitem[Byrd {\emph{et~al.}}(1999)]{ref2}%
Byrd, Richard H., Mary E. Hribar, and Jorge Nocedal. 1999.
``An Interior Point Algorithm for Large-Scale Nonlinear Programming.''
{\emph{SIAM Journal on Optimization}} 9 (4): 877--900.
\end{thebibliography}
```

The section heads like References, Acknowledgments and Appendix can be produced using the command `\section*`. See also Section 5. Use the command `\bibitem` for the reference entries.

ACKNOWLEDGMENTS

This is an optional section. We will be grateful if you carefully follow all the instructions outlined in this template.

APPENDIX

This is also an optional section. The `\appendix` command signals that all following sections are appendices, and therefore the headings after `\appendix` will be set as appendix headings.
Note: All the figures, tables, equations will be automatically numbered as A1, A2, etc. in the appendix part.
Please remember that **the whole document you submit must not exceed 9 pages** and preferably contain an odd number of pages.
For special requests and information about the paper template and formatting please contact the ICED19 Team: info@iced-conference.org