German Workshop on Medical Image Computing 2021
Guidelines for authors of ready-to-print papers

Thomas M. Deserno[1], Heinz Handels[2], Andreas Maier[3], Klaus Maier-Hein[4],
Christoph Palm[5], Thomas Tolxdorff[6]

[1]Peter L. Reichertz Institute for Medical Informatics of TU Braunschweig and
Hannover Medical School
[2]Institute of Medical Informatics, Lübeck University
[3]Pattern Recognition Lab, FAU Erlangen-Nürnberg
[4]Division of Medical Image Computing, German Cancer Research Center (DKFZ)
[5]Regensburg Medical Image Computing (ReMIC), OTH Regensburg
[6]Institute of Medical Informatics, Charité–Medical School
support.bvm@plri.de

Abstract. The Proceedings of the *German Workshop on Medical Image Computing* are published in standardized digital and print on demand form. LaTeX is the foundation of both publication channels. A LaTeX class can be reviewed on the pages of the Workshops. Those requirements have to be met precisely. Is the maximum of 6 pages reached, the authors are being charged a fee of € 270.00 (incl. sales tax). The same applies for submitting the paper as MS Word, since that results in significant converting efforts. All relevant requirement for creating the paper as well as its digital submission are summed up in this document.

1 Introduction

The publication of papers for the annual *German Workshop on Medical Image Computing · Algorithms, Systems, Applications* (BVM) is planned in two versions. Besides the printed version, which will be made available through the print on demand process, papers will individually be made available in digital form by the publisher. In order to be able to accept your paper for publication, you are required to adhere to the guidelines laid out in this document. The following text will guide you through the correct creation of an BVM article.

All manuscripts are automatically combined in LaTeX to the Proceedings Volume and then handed over to the Springer publishing house. As an author of an article, you show concern for usability and yourself by directly submitting your paper in LaTeX. Your files are *required to be encoded as UTF-8* in order to prevent display problems. The character encoding can explicitly be set in the LaTeX editor but is also the standard on up-to-date operating systems. The use of MS Word and other programs should only be considered as an emergency case. We recommend the processing of your paper with the help of a current version of TeXnicCenter, Kile or similar LaTeX editors for a smooth workflow.

2   General format and page layout

The provided guideline exactly corresponds to format specifications. Your paper should resemble the look. The character and paragraph formats are saved in the LaTeX print format and are not to be modified. Please use the new German spelling rules, if your paper is written in German.

2.1   Print space and paging

Please use the DIN-A4 paper format for your article. All page margins should be no less than 4 cm. The print space (editable field in height $\times$ width) is 19.3 cm $\times$ 12.2 cm. In no case, the text height should exceed those boundaries. Pages are allowed to briefly end above the bottom margin in order to prevent new captions from standing alone at the bottom of the page.

The LaTeX class uses content from \title and \author to automatically create the footer and header. If you find the text "Title Suppressed Due to Excessive Length" instead of your title in the header, use the command \titlerunning to set a shorter title for the header of your document. Please check if it fits the header. The final page numbers in the Proceedings are being entered by the editors.

2.2   Paragraphs and font types

The section and subsection title spacing are preset by LaTeX. Please do not use your own formatting. Avoid so called empty sections, where two structuring captions directly follow one another.

The first paragraph in a (sub)section is not indented. New paragraphs within a section are indented by 5 mm at the beginning. Please do not add space between paragraphs. The LaTeX command "\\" is not permitted in the text, and exclusively used to mark the end of table rows.

Please only use the default font types "Times" or "Times (New) Roman". The corresponding font sizes can be taken from Table 1. The LaTeX print format already contains those font settings. Accentuation can be set *italic*, but please use accentuation rarely and not within LaTeX commands like \title or \section. Units (m, mm, etc.) are not allowed to be set italic. Those are bound in right distance to a numerical value by using the LaTeX macro \ts. **Bold** should only be used where required by the style sheet. Please abstain from using footnotes[1] and other text notes (those can directly be placed within the text by using brackets).

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[1] Should footnotes be unavoidable, then please use a 2 cm long line for separation from the text body. Use the entire page width for the footnote text. The maximum page height should in no case be exceeded.

Table 1. Font sizes of the different text modules. The abbreviations *cent, just* und *left* stand for *center, justify* und *left-align*.

Text	Points	Font	Format	LᴬTEX environment	Word print format
Title	14	bold	cent	\title{}	Title
Subtitle	12	bold	cent	\subtitle{}	Subtitle
Authors	10	normal	cent	\author{}	Authors
Address	9	normal	cent	\institute{}	Address
Email	9	normal	cent	\institute{}	Email
Abstract	9	normal	just	abstract	Abstract
1 Captions	12	bold	left	\section{}	Caption1
1.1 Captions	10	bold	left	\subsection{}	Caption2
Normal text	10	normal	just	—	Text
					Following text
Equations	10	italic	cent	equation	Formula
Figure captions	9	normal	just	figure \caption{}	Figure
Table legends	9	normal	just	table \caption{}	Table
Bib. references	9	normal	just	thebibliography	Bibliography
Footnotes	9	normal	just	\footnote{}	Footnote text

2.3 Paper structure

We distinguish between the structure of an article and an abstract paper.

Proceedings abstract: A BVM Proceedings abstract follows the very same style sheet as all BVM Proceedings papers. In doing so, the abstract is to be structured as follows:

> Abstract,
> References.

An abstract is limited to one page only. Note: If the article contains an abstract only title has to be "Abstract: " followed by the title. Furthermore the LᴬTEX-command \abstract{...} must not be used and is not allowed to exceed two lines total. A subtitle is allowed and is limited to two lines, as well. Please do not use line breaks and footnotes, and do not structure your abstract similar to an article (e.g. materials and methods, results, etc.). In addition, please refrain from acknowledgments and disclaimers.

Proceedings article: Each BVM Proceedings article has to adhere to the following basic structure:

> Abstract,
> 1. Introduction,
> 2. Materials and methods,

3. Results,
4. Discussion,
   References.

The section with abstract starts with the word "**Abstract.**" in bold followed by period. This is achieved automatically by using the LaTeX-command \abstract{...}. No numbers are assigned to abstract and references.

Sections from introduction to discussion are numbered automatically and should be divided into subsections where necessary. The LaTeX predefined order of

1. `\section`,
2. `\subsection`,
3. `\subsubsection`, and only then
4. `\paragraph`.

must be adhered to. Use of the commands `\subsubsection` or `\paragraph` directly following `\section` is not permitted – even if it would save space. The editorial processing will undo changes like that, and your text has to be shortened.

Please only use decimals for the numbering of captions, figures, tables, equations, bibliography, and other elements like the involved institutes on the paper's front page (Section 2.4).

2.4 Authors and institutes listing

There are various possibilities to list involved authors and institutes. In order to guarantee uniform naming of all papers and the correct assembly of the author directory, please do not use additional packages like `inst` or similar. Instead, please proceed as follows:

– Use the format "FirstName Initials LastName" for each author.
– Separate the authors only by commas.
– The classification by institutes is performed by using superscript, which is set in the math mode directly after the author's last name. Please pay attention to not leave a space before the comma (Example: `Thomas~M.~Deserno$^1$, ...`).
– The tilde instead of a space prevents word wrap of the name into two lines, if multiple lines are needed for the author.
– Use only one line (if possible) for institute names by utilizing short names.
– Do not use a space between superscript and the institute name (Example: `$^1$Peter L. Reichertz Institute for Medical Informatics`).
– Only mention the e-mail address of the corresponding author.
– Use `\authorrunning` with the last names only and append the last author with `&`. In case of more than three authors, name only the first author followed by et al. Example: "Müller, Meier & Schulze" or "Schmidt et al."

Please ensure as a(n) (co)author of multiple papers that you are listed on all papers in the very same fashion with first, middle, and last name in order to prevent duplicates of you in the author directory.

Fig. 1. Example of a small image, where the caption is placed next to the figure.

2.5 Tables and figures

Every figure or table has to be numbered and has to have a caption. Figures are named "**Fig. 1.**", "**Fig. 2.**", etc., and tables are named "**Table 1.**", "**Table 2.**", etc. Those names are entered as bold text followed by the actual caption. References to figures and tables within the text have to be explicitly set, like at the end of a sentence (Tab. 1). The text has to contain an explicit statement corresponding with the visualized object. Sentences like: "Figure 1 shows the results." are inadequate on their own.
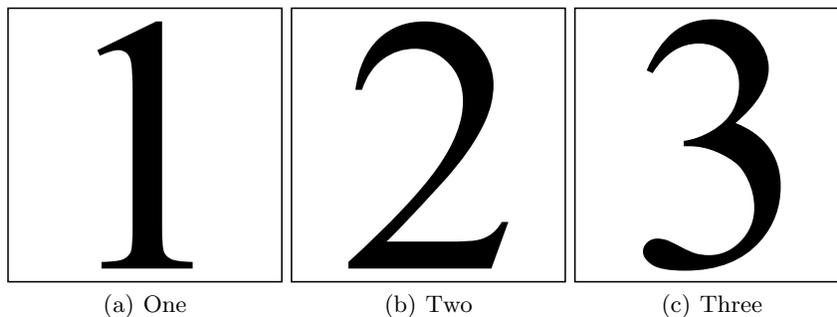
Tables are defined without grid lines. Tables only contain a head and foot line and a line between the headline and the table body (Tab. 1). Wide tables should be expanded to cover for the entire text width. The corresponding command sequence can be found in the LaTeX source text of this document:

```
\begin{tabular*}{\textwidth}{l@{\extracolsep\fill}llll}
...
\end{tabular*}
```

Smaller objects can be positioned at your discretion (Fig. 1). Please use the environment \SCfigure and \SCtable from the *sidecap* package. The text is justified next to the objects at the top.

Larger tables or figures should be placed only at the top (preferred position of tables) or at the bottom (preferred position of figures) of the page. That results in a consistent appearance of the Proceedings, which also improves the readability of the papers. Please note that the caption is placed at the top of the

Fig. 2. Example of integrating multiple graphics under one caption.

(a) One   (b) Two   (c) Three

object for figures and tables at the top of the page. The caption is set below the object, if the object is placed at the bottom of the page. Therefore, the command \caption has to be placed at the right spot in your LaTeX source code. Caption entries should end with a period. The source code of this document can act as template. In LaTeX, figures in the EPS format can directly be embedded into the document. Use the LaTeX command \includegraphics from the LaTeX package *graphic*. The integration of multiple figures under one caption is possible with the package *subfigure* (Abb. 2), which is already linked through the BVM document class. If needed, use \centering instead of the \center environment.

2.6   Formulas

Simple formulas like $x + y = z$ can be a sequential part of the text. Longer or important mathematical formulas are centered on the page

$$x_i + y_{\text{in}} = \sin(z_{\text{out}}) = 2\,\text{cm} \tag{1}$$

Formulas receive a running number at the right border at the level of the equal sign. Mathematical formula signs and symbols are placed in *italic*, with the exception of function names and other name identifiers. Units are bound in right distance to a numerical value by using the LaTeX macro \ts. The source code of equation (1) is an example of how it can be defined in LaTeX.

2.7   Bibliography and internal references

As mentioned earlier, all LaTeX sources are compiled into a single Proceedings document. All internal references (\label, \refs, \cite, etc.) have to include the *BVM article ID* followed by "-" to prevent collisions among cross-references in the document. That also applies to file names of figures (\figure), for example \cite{0000-...}.

Please order the references in the order they appear in the text. References are placed in square brackets [1,2,3]. All bibliography entries must be referenced.

The bibliography must be kept in the Vancouver style [4]. You find a short description of this international convention in file `bvm2021-vancouver.pdf`. Because of the limited paper length, you should follow below tips for the creation of the bibliography:

  – Focus on the most important works necessary for understanding your paper.
  – Shorten the journal names according to the MEDLINE code. An MS Excel file (`bvm2021-issn.xls`) and an ASCII file (`bvm2021-issn.txt`) with abbreviations are part of this author package.
  – Only use the main title of books.
  – List the name of the publisher without using the word "publisher".
  – Reference papers from prior BVM Workshops as paper in a journal [5].
  – Shorten long author listings with "et al.". The first three authors are enough for papers. Referencing publishers, it is sufficient to list the first one.

2.8   Size of papers

All papers at the Workshop are limited to a maximum of six (6) pages based on the specified layout, independent of giving a presentation, poster presentation, or system demonstration. Please do not change the paper format but shorten your text or scale down your figures in order to stay within the limits. Additional pages are being charged for (€ 270.00 incl. sale tax per page). The authors will be billed.

Please keep in mind that the fees need to be paid right after invoicing, so that your paper can be included in the Proceedings. The paper length after editorial revision is of relevance here and not the length of the paper at the time of submission. If you want to avoid text shortenings or downsizing of figures, please do not "trick" to circumvent the style sheet but compose the text – like all other authors – according to the specifications.

In case you compose your paper in MS Word, you should leave about $\frac{1}{2}$ page empty for the conversion not to exceed the page limit.

3   Submission for review

For review, papers have to be anonymized (if you use the sample file `0000.tex` for submission, then simply comment out the command `\author{}` and `\institute{}`) and converted into the PDF format. You can upload your `*.pdf` file at

`http://www.bvm-workshop.org/` under Authors / Paper Filing (almost at the end of the web site). Please pay attention to the required document structure necessary for submission, which slightly differs from the Proceedings format.

4   Creation and submission of accepted papers for the Proceedings

All papers are assigned a four digit reference number. That is required to be used when naming internal references and external figure files in accordance with specifications. This sample document has the fictional article ID "0000".

4.1   LaTeX formats

For the composition of your paper in the LaTeX format use the document class `bvm.cls` ("Version of 2020-10-01"). You can start with the given guideline `0000.tex` as sample document and adapt it to your content. Please consider the following notes:

– *German or English:* Basically use the especially designed bilingual document class `\documentclass[ngerman,english]{bvm}` and choose the language of your paper with the command `\selectlanguage{ngerman}` or `\selectlanguage{english}` after the line `\begin{document}`. Depending of your choice, keep the use of the right quotation marks in mind. In German,

quotes are set with `\glqq` ... `\grqq` and in English with `\elqq` ... `\erqq`. In English, *capitalize* \title and \titlerunning except for conjunctions. The sections of each paper however are to be written in *lowercase* except for the first letter, proper names, and abbreviations.

– *Packages and macros:* The following packages can be used and are already included in the document class `bvm.cls`: *amsmath, amsfonts, amssymb, amsxtra, eurosym, graphics, graphicx, multicol, multirow, algorithmic, sidecap* and *subfigure.* Do not link to own LATEX packages (`*.sty`) and generally save on own macros (`\newcommand`) as much as possible. Should you be in need of own macro definitions, then write those into your `*.tex` file directly and include your article ID in the name in order to keep the macro name unique and prevent duplicates across papers. Please also avoid macro definitions that are not needed in your document. Never ever redefine macros with `\renewcommand`.

– *Linking of figures:* Please use the `*.eps` format exclusively for linking to figures, since it builds upon vector graphics and allows proper scaling of objects. Please pay attention that the EPS file does not have a margin (correct bounding box). (Exception: Screenshots, which are typically built up pixel by pixel, are allowed to be included as *.png, *.jpg, or *.tif. Scalability is limited, though.) Please include figures with the LATEX command \figure{<article ID>-...} and the associated label through \label{<article ID>-...}. <article ID> is a placeholder for your article number. Please use your article number, here. Please do not forget the "-" directly after the article ID (the same applies to the LATEX commands \cite{<article ID>-...} and \ref{<article ID>-...}).

– *PSTricks:* Please refrain from using the package *PSTricks* in your paper. If you are used to work with *PSTricks*, then please create a separate LATEX document for each image. Create the image with PSTricks, issue it as `*.ps` file, and create a `*.eps` file with bounding box with the help of *Ghostscript.* You can then include the file in your paper as described above.

– *Bibliography:* Create a BIBTEX file with entries in BIBTEX format. You can use and adapt the file `0000.bib` from the given sample document. Please make sure the .bib file uses *character encoding UTF-8*. Please name your references in the form BBBB-NN with a reference number of your paper BBBB (that is the provided number for abstract and paper submission) and the running reference NN within your paper, for example 0000-03 for the 3rd reference in article number 0000. Please use multiple references in the format `\cite{0000-01,0000-02}`. The small sample bibliography of the shared sample document provides a journal paper [1], two books [2,3], a book article [6], a BVM Proceedings paper [5], and a documentation [4] for references. Be careful to choose the right category for each source and at least fill in all required fields of your `*.bib` file. Please only add entries to the `*.bib` file, which you also use for your paper. `*.bib` files with your "collected works" complicate the processing and are a source of preventable errors.

– *Listing of additional files:* In an analogous manner, please label all images with the shared article ID followed by minus "-".
– *Leading and trailing spaces:* Please do not use leading and/or trailing spaces within LaTeX commands like \title or \section.

4.2   MS Word format

All MS Word submissions are converted into LaTeX. Please observe the following considerations to simplify the processing:

– *Configuration:* You should set the *width of the style sheet view* to 2 cm in the regular view under the menu item *Extras / Options* from the tab *View* in order to be able to properly work with print formats of MS Word. The left border shows the names of the used print format. The paragraph formats can be selected from the left list in the toolbar.
– *Layout spacing:* Please leave about $\frac{1}{2}$ page empty at the end of the document to allow space for adapting the layout of your paper in the entire project. Overlong papers are editorially processed, shortened, or not included in the Proceedings, in the first place, if the authors do not pay for the extra pages on time.
– *Linking of figures:* Pay attention to keep a minimum distance of 3 mm between figure, caption, and text when you include figures. Do not use running text around figures. Do not place MS Word graphic overlays on images, since those are lost during conversion into LaTeX. All images must also be available in their source format (e.g. `*.jpg`, `*.png`, or `*.tif`)
– *Payment of conversion fee:* Please only submit other than the LaTeX formatted paper, when the payment of your conversion fee has successfully been deposited on the BVM account (Section 4.6).

4.3   Reference file

Create a laid out reference file as PDF. It serves for verification that your paper can be incorporated into the Proceedings without errors. Rename the file into `<article ID>-ref.pdf`, where <article ID> is a placeholder for your article number.

4.4   Archive file with all files

Please create a *ZIP* archive, which contains all files *(no folders!)* that are needed to LaTeX your paper. Those are:

– `<article ID>.tex` your paper as LaTeX file
– `<article ID>-ref.pdf` your paper as layout
– `<article ID>.bib` your bibliography entries
– `<article ID>-figx.eps` all figures of your paper
– `bvm.cls` our LaTeX style sheet file

If the necessary files are missing from your ZIP archive, your paper will be rejected. That also applies in case of non-conform file naming and folders in your ZIP archive. The BVM style sheet `bvm.bst` does not need to be incorporated. The BMV style sheet `bvm.cls` however has to be.

4.5 Transfer

The transfer of the archive file is possible from 12/01/2020 on the web site `http://bvm.plri.de` The login requires your e-mail address and your article ID. Please upload your *ZIP* archive onto the server. The content of your *ZIP* archive is automatically checked for compliance with this guideline. Should you encounter error messages, please correct the noted points and file your *ZIP* archive, again.

4.6 Fees

You find detailed information about the amount and composition of fees at `http://www.bvm-workshop.org/registrierung-2/` Extra pages and conversion of MS Word papers by the BVM team are with costs and have to be paid by the authors separately, € 270.00 incl. sales tax each. The fees are seen as additive. As author, you have to ensure that all fees are deposited to the BVM Workshops account on time.

5 Style sheets and tips

At the Internet address: `http://www.bvm-workshop.org/` you will find all needed style sheets and tips necessary for preparing and filing your paper under "Autoren / Autorenrichtlinien". The package contains the following files:

– `bvm.cls` LATEX document class with all print formats;
– `bvm.bst` BIBTEX definitions in the Vancouver Style;
– `bvm2021-vancouver.pdf` Definition of the Vancouver Style [4];
– `bvm2021-issn.xls` Excel file with the MedLine abbreviations for scientific journals;
– `bvm2021-issn.txt` equals `bvm2021-issn.xls`, but in the ASCII format;
– `0000.tex` LATEX file that was used to create this document;
– `0000.bib` BIBTEX file with the references of this document;
– `0000-figx.eps` Separate EPS figure files according to guideline.

5.1 Troubleshooting

Should you have any questions or problems, then please contact the BVM Proceedings team at `support.bvm@plri.de`. In case you have never worked with LATEX before, we are happy to help you with advice to make it easier for you. The higher the share of submitted papers in LATEX, the easier and better the processing of the book project.

References

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