

# **iaria**

## An Unofficial IARIA LaTeX Class

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Version 0.3

### **Abstract**

The `iaria`-class provides a convenient environment for writing IARIA scholarly publications. This version also implements full IARIA specifications for citation style, which can only be templated for a specific technological combination like latex/pdflatex in combination with biblatex using a biber backend.

## **1 Installation**

The `zip` or `tar.gz` file comes with a `iaria.ins` and a `iaria.dtx` file included which contains the L<sup>A</sup>T<sub>E</sub>X stuff.

To extract the class files call:

```
$ latex iaria.ins
```

This call will extract all L<sup>A</sup>T<sub>E</sub>X specific files to the current directory. You can either use the files for a single cv project or you can integrate the files into your T<sub>E</sub>X installation.

If you just want to use `iaria` for a single curriculum vitae project, the simplest way is just to copy the generated files to the folder of the project.

If you want to integrate `iaria` into your T<sub>E</sub>X installation, create a directory `tex/latex/iaria` beneath your T<sub>E</sub>X installation (e.g. beneath `/usr/share/texmf`) and copy all files from the current directory there. Now call:

```
$ mktexlsr
```

to update the file-cache of L<sup>A</sup>T<sub>E</sub>X.

Hint: The `iaria` distribution contains a sample docstrip configuration in `docstrip.cfg` via which files can be distributed automatically to their correct positions inside a L<sup>A</sup>T<sub>E</sub>X installation. Feel free to adapt this file to your environment and afterwards call `latex iaria.ins` to install the package to its right place.

## 2 Templates

For a quick start the `iaria-lite` distribution contains document templates. The templates can be found in the `iaria-example-neumann.zip` file.

## 3 Documentclass

`documentclass iaria` This package provides the documentclass `iaria`. The documentclass supports the following options:

- `conference` Passed to `IEEEtran`
- `a4paper` Passed to `IEEEtran`
- `flushend` Activate `flushend` package
- `pbalance` Activate `pbalance` package

## 4 Requirements

We instrument several other  $\text{\LaTeX}$  packages for different purposes, which must be available under your installation.

- `IEEEtran`
- `biblatex`
- `extdash`
- `flushend`
- `fontenc`
- `graphicx`
- `hyperref`
- `inputenc`
- `orcidlink`
- `pbalance`
- `times`
- `url`
- `xcolor`
- `xpatch`

## 5 The Code

```
1 @echo off
2
3 rem *****
4 rem * author: Christoph P. Neumann
5 rem *****
6 cd /d "%~dp0"
7
8 echo == ..\examples\* ==
9 for /D %%D in (..\examples\*) do (
10  echo == %%D ==
11  xcopy /Y ".\*.cls" "%%~D"
12 )
13
14 pause
15
16
17 % !TeX spellcheck = en-US
18 % LTeX: language=en-US
19 % !TeX encoding = utf8
20 % !TeX program = pdflatex
21 % !BIB program = biblatex / biber
22
23 %# DISCLAIMER: Only for latex/pdflatex in combination with biblatex using a biber backend.
24 %# (And neither for XeLaTeX or LuaTeX nor for bibtex or natbib.)
25 %# Because to set the required bibliography configuration, the biblatex package needs to be loaded.
26 %# I also need to adjust formatting of ONLINE entries, thus, I have to make some assumptions.
27 %# And inputenc must be loaded before biblatex.
28 %# Thus, inputenc, fontenc and biblatex with backend=biber are hard coded part of this template.
29 %# I could remove these from the cls and make this part of the example.tex, but then it would be more complicated.
30 %# I apologize for this opinionated design decision to anyone who is jeopardised by it.
31 %#
32 %# I also had to decide whether to hardcode required usage of IEEEtran "conference" option in the preamble.
33 %# I decided against it.
34 %# Thus, it is required to use IARIA class like this: \documentclass[conference]{iaria}.
35 %# The iaria class passes all class options (like "conference") to IEEEtran.
36 %# The reasoning: There might be a future use case (speculatively) to pass IEEEtran options to the document class.
37 %# For now, IARIA requires IEEE "conference" option, only.
38
39 % Declare that this document class file requires at least LaTeX version 2e.
40 \NeedsTeXFormat{LaTeX2e}
41
42 % Provide the name of your document class, the date it was last updated, and a comment about the version.
43 \ProvidesClass{iaria}[2024/09/15 unofficial IARIA conference template v0.3]
44
45 % Define marker counter for options (counter are global in latex):
46 \newcounter{iaria@subfigtracker}
47 \newcounter{iaria@subcaptiontracker}
48 \newcounter{iaria@pbalancectracker}
49 \newcounter{iaria@flushendtracker}
50
51 % Declare options:
52
```

```

53 \DeclareOption{subfig}{
54   \setcounter{iaria@subfigtracker}{1}
55   \typeout{iaria class: subfig option is set (use subfloat command).}
56 }
57 \DeclareOption{subcaption}{
58   \setcounter{iaria@subcaptiontracker}{1}
59   \typeout{iaria class: subcaption option is set (use subfigure command).}
60 }
61
62 \DeclareOption{onecolumn}{\OptionNotUsed} % IEEE option onecolumn will be ignored
63
64 \DeclareOption{pbalance}{
65   \setcounter{iaria@pbalancectracker}{1}
66   \typeout{iaria class: pbalance option is set.}
67 }
68 \DeclareOption{flushend}{
69   \setcounter{iaria@flushendtracker}{1}
70   \typeout{iaria class: flushend option is set.}
71 }
72
73 % We'll pass any document class options along to the underlying class
74 \DeclareOption*{%
75   \PassOptionsToClass{\CurrentOption}{IEEEtran}% required IEEE options: conference (for IARIA)
76 }
77
78 % Now we'll execute any options passed in
79 \ProcessOptions\relax
80
81 % Instead of defining each and every little detail required to create a new document class,
82 % you can base your class on an existing document class.
83 \LoadClass{IEEEtran}
84
85 % Now paste your code from the preamble here.
86 % Replace \usepackage with \RequirePackage. (The syntax for both commands is the same.)
87
88 \RequirePackage{times} % Times New Roman
89
90 % inputenc must be loaded before biblatex
91 \RequirePackage[utf8]{inputenc}
92
93 % https://tex.stackexchange.com/questions/664/why-should-i-use-RequirePackaget1fontenc
94 % Has to be loaded AFTER any font packages. See https://tex.stackexchange.com/a/2869/9075.
95 \RequirePackage[T1]{fontenc}
96
97 \RequirePackage{graphicx}
98 \RequirePackage{xcolor}
99
100 \RequirePackage{url}
101 \RequirePackage{orcidlink}
102 \RequirePackage{hyperref}
103 \hypersetup{hidelinks,unicode}
104
105 % Diferring from IEEE, IARIA requires
106 % in bibliography: 6+ authors as first author et al.

```

```

107 % in \citeauthor: any case of et al. with just first author et al.
108 \RequirePackage[defernnumbers=true,style=ieee, backend=biber, url=false, hyperref, maxnames=5,
109
110 % Due to applied option defernnumbers=true:
111 % Prevent citations in the references are being numbered as '0' in ArXiv
112 % https://tex.stackexchange.com/questions/463556/all-the-citations-in-the-references-are-bein
113 \makeatletter
114 \let\blx@rerun@biber\relax
115 \makeatother
116
117 \renewcommand*{\bibfont}{\small}
118
119 % Diferring from IEEE, IARIA requires, for ONLINE entries, no point but a comma between auth
120 % For style=ieee
121 \DeclareBibliographyDriver{online}{%
122     \usebibmacro{bibindex}%
123     \usebibmacro{begentry}%
124     \usebibmacro{author/editor+others/translator+others}
125     \setunit{\labelnamepunct}\newblock
126     \usebibmacro{title}%
127     \newunit
128     \printlist{language}%
129     \newunit\newblock
130     \usebibmacro{byauthor}%
131     \newunit\newblock
132     \usebibmacro{byeditor+others}%
133     \newunit\newblock
134     \printfield{version}%
135     \newunit
136     \printfield{note}%
137     \newunit\newblock
138     \printlist{organization}
139     \newunit\newblock
140     \usebibmacro{date}%
141     \newunit\newblock
142     \iftoggle{bbx:eprint}
143     {\usebibmacro{eprint}}
144     {}%
145     \newunit\newblock
146     \usebibmacro{url+urldate}%
147     \newunit\newblock
148     \usebibmacro{addendum+pubstate}%
149     \setunit{\bibpagerefpunct}\newblock
150     \usebibmacro{pageref}%
151     \usebibmacro{finentry}}
152
153 \makeatletter
154 % Diferring from IEEE, IARIA requires non-abbreviated references:
155 \renewcommand{\fnum@figure}{Figure~\thefigure}
156 % Diferring from IEEE, IARIA requires 14 point bold Times New Roman for the title
157 \renewcommand{\title}[1]{\renewcommand{\@title}{\bfseries\Large #1}}
158 % Diferring from IEEE, IARIA requires "Keywords" instead of "Index Terms":
159 \renewcommand\IEEEkeywordsname{Keywords}
160 \makeatother

```

```

161
162 \RequirePackage{xpatch}
163 % Diferring from IEEE, IARIA requires a hyphen after "Keywords" instead of an emdash:
164 \xpatchcmd\IEEEkeywords{---}{-}{-}{}{}
165
166 % Diferring from IEEE, IARIA requires also the keywords in Italic (and Bold)(and lower case!)
167 \let\oldIEEEkeywords\IEEEkeywords
168 \def\IEEEkeywords{\oldIEEEkeywords\itshape\ignorespaces}
169
170 \makeatletter
171 \renewcommand{\IEEEauthorblockN}[1]{%
172 % copied from IEEEtran.cls:
173     \relax\@IEEEauthorblockNstyle% set the default text style
174     \gdef\@IEEEauthorblockXinterlinespace{0pt}% disable strut for spacer row
175     % the \expandafter hides the \cr in conditional tex, see the array.sty docs
176     % for details, probably not needed here as the \cr is in a macro
177     % do a spacer row if needed
178     \if@IEEEprevauthorblockincol\expandafter\@IEEEauthorblockNtopspaceline\fi
179     \global\@IEEEprevauthorblockincoltrue% we now have a block in this column
180     %restore the correct strut value
181     \gdef\@IEEEauthorblockXinterlinespace{\@IEEEauthorblockNinterlinespace}%
182     % input the author names
183     \large
184     #1%
185     % end the row if the user did not already
186     \crcr}
187 \makeatother
188
189 % IARIA requires to bring the table caption in the same line of "Table I"
190 \usepackage{etoolbox}
191 \makeatletter
192 \patchcmd{\@makecaption}
193     {\}
194     {\. \ }
195     {}
196     {}
197 \makeatother
198
199 % IARIA subfigure captions require parentheses and footnotesize:
200 \ifnum\value{iaria@subfigtracker}=1
201     \typeout{iaria class: load subfig package (use subfloat command).}
202     \RequirePackage[caption=false,font=footnotesize]{subfig}
203 \fi
204 \ifnum\value{iaria@subcaptiontracker}=1
205     \typeout{iaria class: load subcaption package (use subfigure command).}
206     \RequirePackage{subcaption}
207     \captionsetup[subfigure]{labelformat=parens,font=footnotesize}
208 \fi
209
210 % Balance/level columns at the last page / in bibliography
211 % DISCLAIMER: No solution is a 100%/perfect one!
212 % Mainstream option: pbalance (see https://ctan.org/pkg/pbalance)
213 % BUT: incompatible with arxiv automated process (!)
214 \ifnum\value{iaria@pbalancectracker}=1

```

```

215 \typeout{iaria class: load pbalance package.}
216 \RequirePackage{pbalance}
217 \fi
218 % Flushend => works with arxiv, but major incampatibility with lineno (and, thus, also with m
219 \ifnum\value{iaria@flushendtracker}=1
220 \typeout{iaria class: load flushend package.}
221 \RequirePackage{flushend}
222 \fi
223
224 % =====
225 % Packages with recommendation to load them last:
226
227 % Allows to hyphenate a word that contains a dash:
228 % https://stackoverflow.com/questions/2193307/how-do-i-get-latex-to-hyphenate-a-word-that-con
229 \RequirePackage[shortcuts]{extdash} % Use \-/ for a breakable dash that does not prevent the
230 % =====
231
232 % Finally, we'll use \endinput to indicate that LaTeX can stop reading this file. LaTeX will
233 \endinput

```