KU LEUVEN

Best Practices – LaTex

For Master Thesis

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```latex
\documentclass[12pt,a4paper,oneside,draft]{report}

\usepackage[option]{package}

\begin{document}

% Introductory chapters
\chapter{Preface}
% ...

\mainmatter
\chapter{First chapter}
% ...

\appendix
\chapter{First Appendix}
50~€

\backmatter
\chapter{Last note}

\bibliographystyle{plain}
\bibliography{bib}

\end{document}
```

Preamble

Content

Bibliography

Referencing Other Work – Where to find them?

- Academic Documents
  - kuleuven.ezproxy.kuleuven.be

  - IEEE Xplore
  - Google Scholar
  - Limo

Referencing Other Work – How to LaTex?

What is it?	**Who?**	**What is it doing?**
LaTex Package	natbib	Define \cite in .tex document
Processing	BibTex	Bridge together .bib and .tex
Database file	.bib	Storage of references

.bib

@misc
@techreport

Key

forename surname and ...

or

surname, forename and ...

```
@article{greenwade93,
    author  = "George D. Greenwade",
    title   = "The {C}omprehensive {T}ex {A}rchive {N}etwork ({CTAN})",
    year    = "1993",
    journal = "TUGBoat",
    volume  = "14",
    number  = "3",
    pages   = "342--351"
}
```

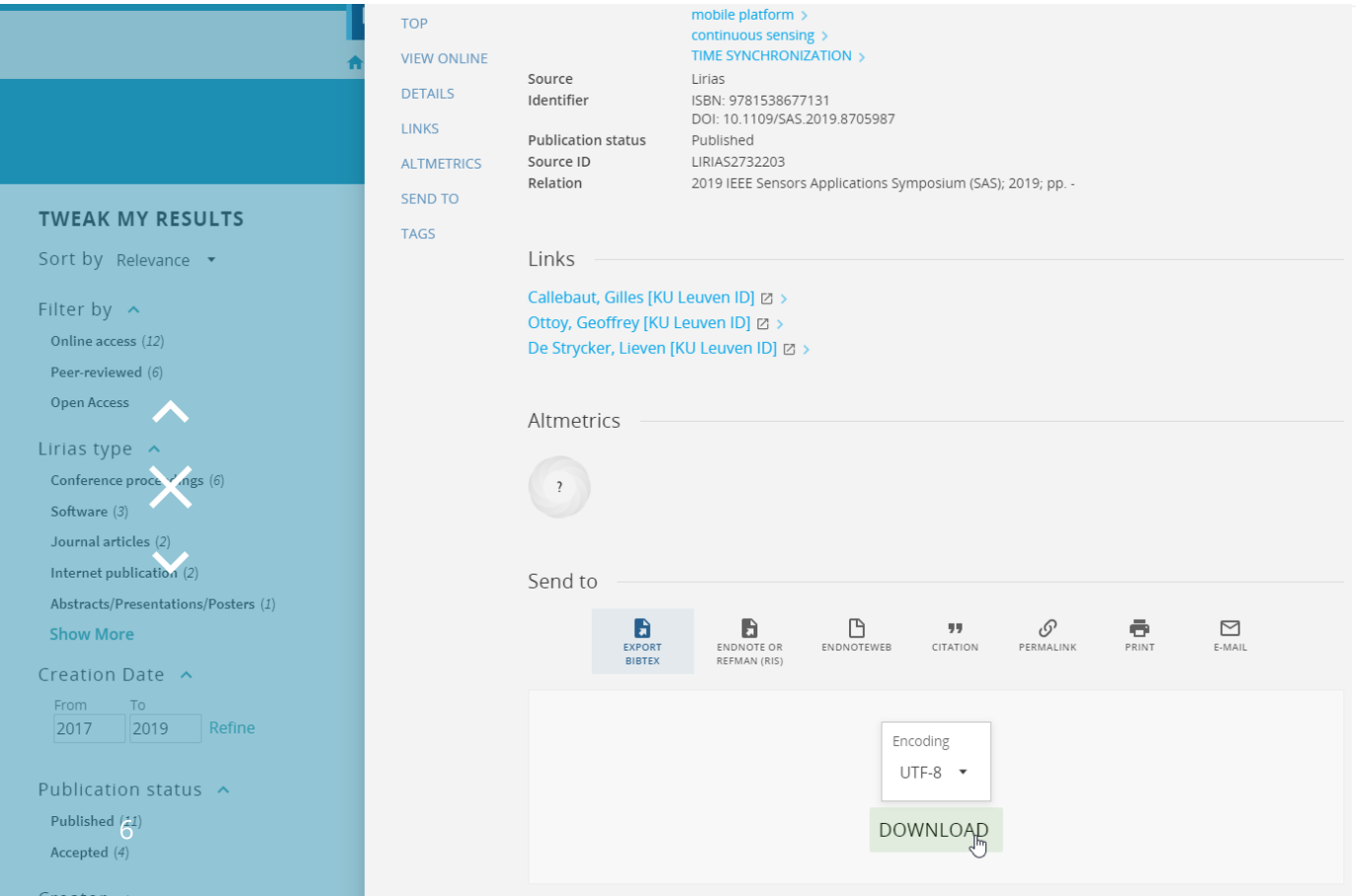
{{Keep case of Letters}}

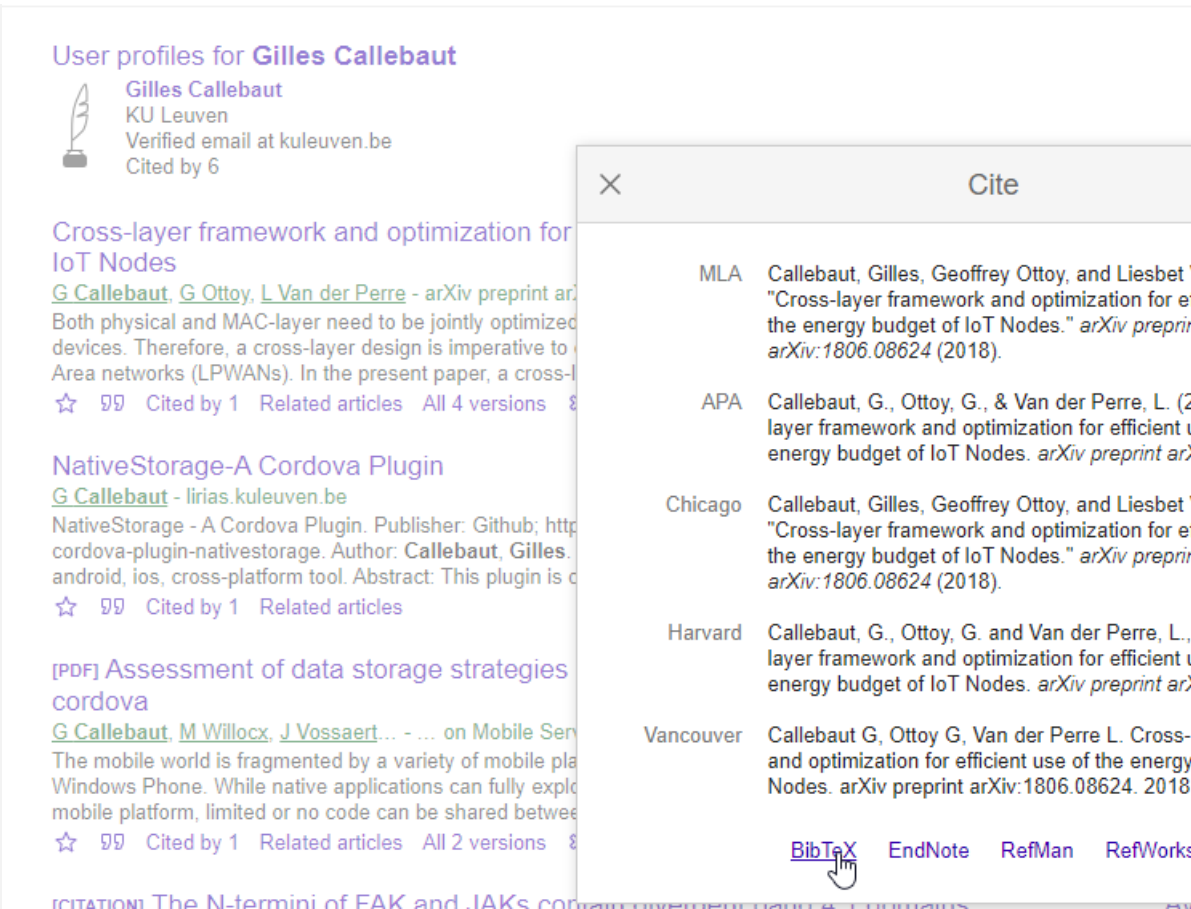
```
\cite{greenwade93}
```

Get .bib file

limo.libis.be

scholar.google.com





How to use?

Citation Style

```
%in the preamble
%-------------------------------
\usepackage[square,numbers]{natbib} % use [1] notation
\bibliographystyle{IEEEtranN} % how formatted in bibliography
%-------------------------------

%Where the bibliography will be printed
\bibliography{bibfile}
```

Bibliography Style

Abbreviations

```
\usepackage[acronym]{glossaries}


\makeglossaries


\newacronym{iot}{IoT}{Internet-of-Things} % default expression for defining a new acronym

\newacronym[plural=LPWANs,firstplural=Low-Power Wide-Area Networks (LPWANs)]{lpwan}{LPWAN}{Low-Power
Wide-Area Network}


\begin{document}

\gls{iot}

\glspl{lpwan}

\acrlong{iot}

\acrshort{iot}

\acrfull{iot}  % outputs: Internet-of-Things (IoT)

\end{document}
```

Tabular – Fixed Column Width

```
\begin{center}
    \begin{tabular}{ l  l  l  p{5cm}}
    \hline
    Day & Min Temp & Max Temp & Summary \\ \hline
    Monday & 11C & 22C & A clear day with lots of sunshine.
    However, the strong breeze will bring down the temperatur
    Tuesday & 9C & 19C & Cloudy with rain, across many northe
    across most of Scotland and Northern Ireland,
    but rain reaching the far northwest. \\ \hline
    Wednesday & 10C & 21C & Rain will still linger for the mo
    Conditions will improve by early afternoon and continue
    throughout the evening. \\
    \hline
    \end{tabular}
\end{center}
```

Day	Min Temp	Max Temp	Summary
Monday	11C	22C	A clear day with lots of sunshine. However, the strong breeze will bring down the temperatures.
Tuesday	9C	19C	Cloudy with rain, across many northern regions. Clear spells across most of Scotland and Northern Ireland, but rain reaching the far northwest.
Wednesday	10C	21C	Rain will still linger for the morning. Conditions will improve by early afternoon and continue throughout the evening.

Tabularx – Autowidth columns

X specifier

```
\begin{tabularx}{\textwidth}{ ccccX }
  \hline
  label 1 & label 2 & label 3 & label 4 \\
  \hline
  item 1  & item 2  & item 3  & heel veel tekst
die automatisch schaalt naar de inhoud.  \\
  \hline
\end{tabularx}
```

label 1	label 2	label 3	label 4
item 1	item 2	item 3	heel veel tekst die automatisch schaalt naar de inhoud.

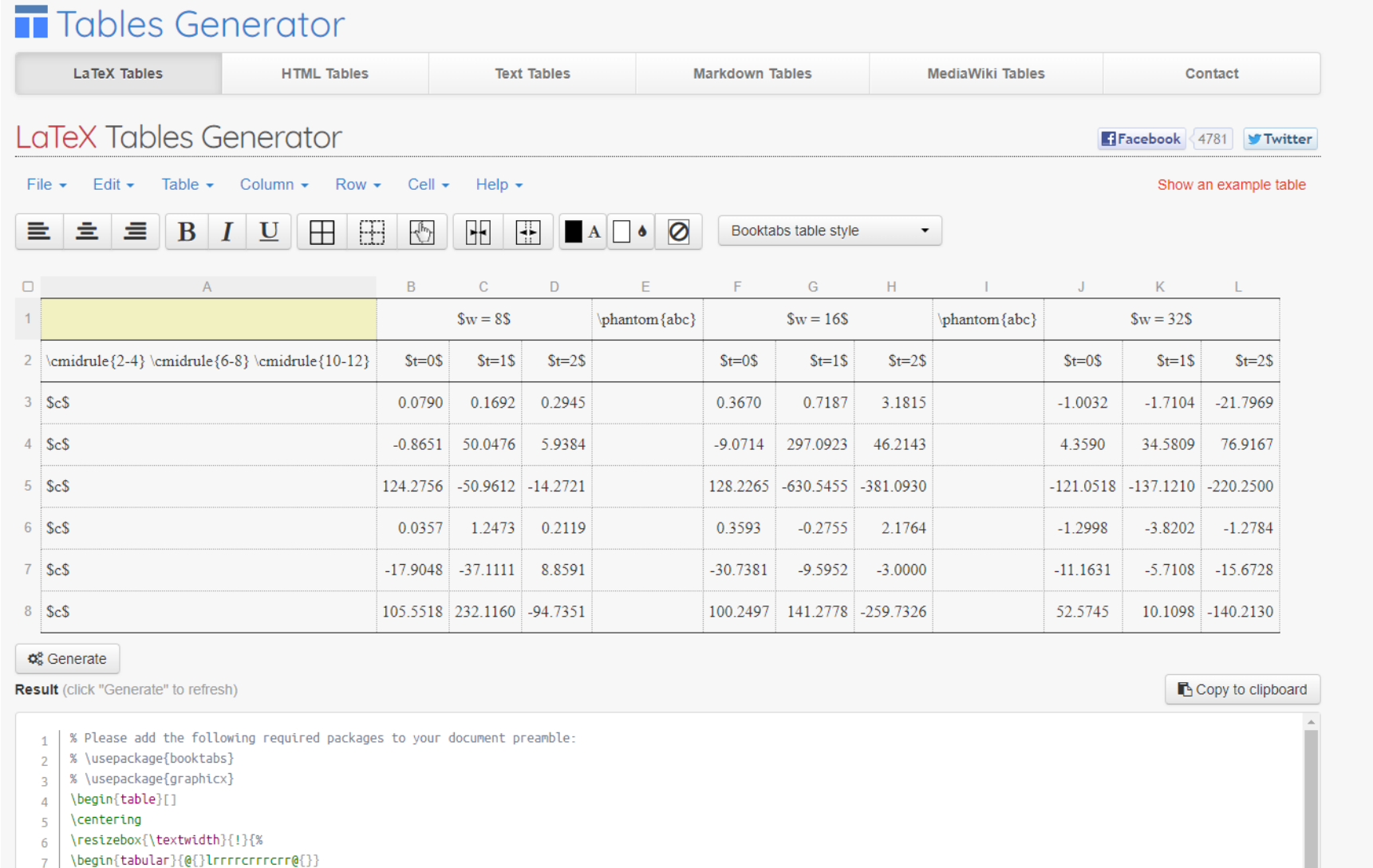
Table – Environment for Tabular(s)

h	Place the float here, i.e., approximately at the same point it occurs in the source text
t	Position at the top of the page.
b	Position at the bottom of the page.
p	Put on a special page for floats only.
!	Override internal parameters LaTeX uses for determining "good" float positions.
H	Places the float at precisely the location in the LaTeX code. Requires the float package

```
\begin{table}[position specifier]
  \centering
  \begin{tabular}{|l|}
    ... your table ...
  \end{tabular}
  \caption{This table shows some data}%
  \label{tab:myfirsttable}
\end{table}
```

https://inf.ethz.ch/personal/markusp/teaching/guides/guide-tables.pdf

www.tablesgenerator.com



	A	B	C	D	E	F	G	H	I	J	K	L
1		$w = 8$				$w = 16$				$w = 32$		
2	\cmidrule{2-4} \cmidrule{6-8} \cmidrule{10-12}	$t=0$	$t=1$	$t=2$		$t=0$	$t=1$	$t=2$		$t=0$	$t=1$	$t=2$
3	c	0.0790	0.1692	0.2945		0.3670	0.7187	3.1815		-1.0032	-1.7104	-21.7969
4	c	-0.8651	50.0476	5.9384		-9.0714	297.0923	46.2143		4.3590	34.5809	76.9167
5	c	124.2756	-50.9612	-14.2721		128.2265	-630.5455	-381.0930		-121.0518	-137.1210	-220.2500
6	c	0.0357	1.2473	0.2119		0.3593	-0.2755	2.1764		-1.2998	-3.8202	-1.2784
7	c	-17.9048	-37.1111	8.8591		-30.7381	-9.5952	-3.0000		-11.1631	-5.7108	-15.6728
8	c	105.5518	232.1160	-94.7351		100.2497	141.2778	-259.7326		52.5745	10.1098	-140.2130

Consistent labels!

ch:	chapter
sec:	section
subsec:	subsection
fig:	figure
tab:	table
eq:	equation
lst:	code listing
itm:	enumerated list item
alg:	algorithm
app:	appendix subsection

Consistent labels!

ch:	chapter
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```
\cref{fig:example}
\cref{tab:example}
\cref{ch:hfdstk1}
\cref{eq:emc2}
```

Figuur 1.1

Tabel 1.1

Hoofdstuk 1

Vergelijking (1.1)

SI Units

```
\usepackage{siunitx}


A $\SI{45}{\degree}$ angle or a \ang{45}.

It is \SI{17}{\degreeCelsius} outside.

\num{1000}
\num{3.45d-4}


\si{kg.m/s^2} %unit only

\SI{10}{\percent}
\SI{68}{kg}
```

A 45° angle or a 45°.

It is $17\,^\circ\mathrm{C}$ outside.

1000

3.45×10^{-4}

$\mathrm{kg\,m/s^2}$

$10\,\%$

$68\,\mathrm{kg}$

Master Thesis Template KU Leuven

https://www.overleaf.com/latex/templates/master-thesis-template-ku-leuven/jxshykvppkfd

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More Tips and Tricks

- Thesis specific: https://dramco-edu.github.io/Thesis-Tips-and-Tricks/
- LaTex specific: https://github.com/dramco-edu/LaTex