

TEMPLATE DESCRIPTION

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5	Maria Byner	Fast environmental and climate changes in northern Tanzania
6	Daniel S. Veves	Terrrestrial response to Dansgaard-Oeschger cycles and Heinrich events
7	Yoshihiro Shibuo	Modelling Water and Solute Flows at Land-sea and Land-atmosphere Interfaces Under Data Limitations
8	Giuseppe Dessia	Forest decline in South Central Ethiopia
NO 9	Herron De Angelis	Palaeo-ice streams in the north-eastern Laurentide Ice Sheet
NO 10	Amelie Dorraeq	Long-term development, modeling and management of nutrient loading to inland and coastal waters
11	Fredrik Hamnerz	Making Water Information Relevant on Local to Global Scale - The Role of Information Systems for Integrated Water Management
12	Mattias de Woul	Response of glaciers to climate change
13	Elin Norström	Late Quaternary climate and environmental change in the summer rainfall region of South Africa
14	Bradley W. Goodfellow	Relict non-glacial surfaces and autochthonous blockfields in the northern Swedish mountains
15	Martina Hättestrand	Vegetation and climate during Weichselian ice free intervals in northern Sweden
16	Linda Ampel	Dansgaard-Oeschger cycles and Heinrich events in western Europe - A diatom perspective
18	Christina E. Jonsson	Holocene climate and atmospheric circulation changes in northern Fennoscandia
19	Karin Ebert	Cenozoic landscape evolution in northern Sweden
20	Sofia Andersson	Late Holocene humidity variability in central Sweden
21	Jakob Heyman	Paleogeography of the northeastern Tibetan Plateau
22	Timothy F. Johnson	Late Quaternary ice sheet history and dynamics in central and southern Scandinavia
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	Susanne Ingander	Snow particle size investigations using digital image analysis - implications for ground observations and remote sensing of snow
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	Helena Öberg	Diatoms in Lake Dulvit
	Martin Margold	Retreat pattern and dynamics of glaciers and ice sheets: reconstructions based on meltwater features
	Päivi Kaisihti-Tillman	Holocene climate and environmental change in high latitudes as recorded by stable isotopes in peat deposits
	Jakob Granit	The Collective Action Dilemma in Managing Transboundary Freshwaters
	Claudia Teutschbein	Hydrological Modeling for Climate Change Impact Assessment
	Shilpa Muliyl Asokan	Hydro-climatic changes in irrigated world regions
	Rebecka Torngvist	Basin-scale change in water availability and water quality under intensified irrigated agriculture
	Alistar C. Auffret	Seed mobility and connectivity in changing rural landscapes
	Arvid Bring	Arctic Climate and Water Change
	Ping Fu	Paleogeography of Shaluli Shan, southeastern Tibetan Plateau
	Siyinreke Shala	Paleoenvironmental changes in the northern boreal zone of Finland: local versus regional drivers
	Ewa Lind	Tephra horizons in the North Atlantic region during the Early Holocene
	Amika Bertsson	The sensitivity of Swedish alpine lakes to hydro-climatic changes during the Late Holocene
	Julien Seguret	Numerical modelling of the Cordilleran ice sheet
	Alkaterini Mazi	Seawater intrusion risks and controls for safe use of coastal groundwater under multiple change pressures
	Martin Finne	Climate in the eastern Mediterranean during the Holocene and beyond - A Peloponnesian perspective
	Johanna Malin Karlsson	Arctic Water System Change and its Interactions with Permafrost and Ecosystem Changes
	Lucile Verrot	Modeling long-term variability and change of soil moisture and groundwater level - from catchment to global scale
	Fernando Jaramillo	Changes in the Freshwater System
	Viva Sjoberg	Linking water and permafrost dynamics
	Natacha Giblenski	Comparison of dating methods for paleoglacial reconstruction in Central Asia

Using the L^AT_EX templates for authoring a dissertation in Physical Geography at Stockholm University

Peter Jansson

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1 Introduction

This documents provides support for understanding and using the L^AT_EX templates for typesetting the ‘Kappa’ and manuscripts in a PhD dissertation in Physical Geography. To get started with L^AT_EX you can start by reading the brief ‘Getting started with L^AT_EX authoring in Physical Geography’ which provides information on basic software and additional sources for learning. This is not a course in using L^AT_EX so I assume you have basic knowledge of how to generate output in your system. The focus here lies in successfully working with the templates to generate output to the printer. To get a quick introduction to L^AT_EX I recommend downloading the *Scientific writing with L^AT_EX* as well as many introductions on the web.

The template has been constructed to work with XeL^AT_EX in Overleaf. It will work with pdfL^AT_EX but e.g. the type faces will not completely adhere to the Stockholm University standard unless using XeL^AT_EX as the compiler in Overleaf.

The kappa template is adjusted to fit with the pages generated with the Stockholm University online dissertation tool.

2 The NgDissertation package

A key component for making the Kappa and manuscripts is the NgDissertation package, essentially the file NgDissertation.sty. This file contains the nuts and bolts that makes the templates work. You do not need to know much about the content of the file. The definitions residing inside it should not be tampered with unless you know exactly what you are doing. At the same time, if you decide to add your own packages to your thesis you need to check that you are not interfering with the content in the dissertation package. This document thus summarises the content and critical setting.

Note that the package is used for both the Kappa and the manuscripts and is made in such a way that its content adapts to the type of writing you perform.

The following packages are called in NGDissertation.sty file. Options that are used have been shown in square brackets. (in alphabetical order):

```
adjustbox [export]
amsmath
appendix [toc,title,header]
authblk
babel [swedish,UKenglish,USenglish]
booktabs}
caption [font={footnotesize,rm},format=plain,labelsep=period,
         justification=justified,singlelinecheck=0]
chngcntr
fancyhdr
fontspec
geometry [a4paper,left=40mm,right=35mm,top=30mm,bottom=25mm]
graphicx
hanging
hyperref [a4paper=true,xetex]
ifxetex
inputenc [utf8]
layout
lipsum
multitrow
natbib
rotating [twoside]
siunitx [separate-uncertainty=true,multi-part-units=single, product-units=single,
         list-units=single,range-units=single]
tabularx
tgheros
tgermes
threeparttable
tikz
titlesec
```

This means you should not load these package yourself. Also note that some packages are loaded with certain settings predefined. You can of course use additional features of the packages but need to

check in the `NgDissertation.sty` file to make sure you are not inadvertently changing any crucial settings, thereby altering the intended use of the template.

In addition to the explicitly called packages there are several more packages that are implicitly called through some of the packages above. These include

```
xcolor
```

2.1 Package summary

2.1.1 amstex

The `AMSTEX` package adds advanced mathematical capability. It is loaded for those who need to add much mathematical notation to the thesis. Please refer to the `AMSTEX` package information for details.

2.1.2 appendix

The `appendix` package provides means to organize and format appendices in documents and is used internally.

2.1.3 authblk

The `authblk` package is used in the preamble to format the article header in manuscripts.

2.1.4 babel

The `babel` package provide multilanguage support for `LATEX`. Many features in `LATEX` are predefined. For example, the word `chapter` is provided when writing a book. If you write a book in Swedish you want the Swedish word ‘Kapitel’ instead. Babel provides this if your use it to switch to Swedish. See the Babel documentation for more details. In the thesis package `babel` is used to switch between British English and US English. This will mostly affect dates and some spelling differences. If you are a European you should use British English. Other choices depend on what form of English you are familiar with.

Swedish support has been added but will likely not be of use for you.

2.1.5 booktabs

The `booktabs` package provides better formatting possibilities for tables. I have used these in the sample tables in the templates.

2.1.6 caption

The `caption` package is used in the style file to modify the figure and table caption formats. The package is invoked with several options that specify the formatting of the captions.

```
\usepackage[font={footnotesize,rm},format=plain,labelsep=period,
justification=justified,singlelinecheck=0]{caption}
```

2.1.7 chngctr

The `chngctr` adds to the way counters can be changed in `LATEX`.

2.1.8 fancyhdr

The `fancyhdr` is a standard package to handle page header and footers in documents.

2.1.9 fontenc

The `fontenc` package allows access to accented letters in the output from `LATEX`. It is necessary when using `pdfLATEX`.

2.1.10 fontspec

The `fontspec` package allows Xe \LaTeX to recognise system fonts for use in \LaTeX . Through the `fontspec` package we load Times New Roman and Verdana as standard fonts for the dissertation.

2.1.11 geometry

The `geometry` package provides simpler access to page settings. In the dissertation files, the margins are set according to the parameters of the command. A4 paper size is also requested.

2.1.12 graphicx

The `graphicx` package is fundamental for including graphics. The package supports JPEG, PNG, and PDF input.

2.1.13 hanging

The `hanging` package allows you to typeset a single or sets of paragraphs with specified indentation. The package can be used to produce, for example, hanging indentations such as in a reference list.

2.1.14 hyperref

The `hyperref` package allows for live links in the document. Among other things all headings become linked to the table of contents, references become linked to the reference list. Note that this is one package that requires specific settings for Xe \LaTeX , which is why it resides in the `if` statement.

2.1.15 ifxetex

The `ifxetex` package call allows testing if Xe \LaTeX is run. Xe \LaTeX has slightly different requirements than regular pdf \LaTeX . Xe \LaTeX allows \LaTeX to access the OpenType fonts of your computer directly. It is thus possible to make other font choices in Xe \LaTeX than in pdf \LaTeX . Xe \LaTeX also accesses the utf8 and utf16 fonts directly whereas pdf \LaTeX as \LaTeX requires specific packages to allow access to accented letters etc. directly.

2.1.16 inputenc

The `inputenc` package provides pdf \LaTeX access to accented letters on the keyboard. Without this package only basic ASCII characters and numbers are available (generic \LaTeX).

2.1.17 layout

The `layout` package provides a possibility to graphically view the current layout settings of the document. This is accomplished by entering the command `\layout` which generates the layout settings at that point. This command is used at the end of the template files for reference.

2.1.18 lipsum

The `lipsum` packages provides access to the lipsum text. Lipsum is a latin text used by typesetters to produce masses of text to check layout etc. Simply type `\lipsum` in your document to get several paragraphs of words.

2.1.19 multirow

The `multirow` package allows the user to make complex tables with different number of rows in different columns. It is akin to the `multicolumn` command in the `booktabs` package.

2.1.20 natbib

The `natbib` package allows referencing using the author-date system.

2.1.21 rotating

The `rotating` packages allows rotation of full page figures and their captions on a page.

2.1.22 siunitx

The `siunitx` package provides means to reproduce values and units correctly according to the SI system. In the dissertation `siunitx` is invoked with several options:

```
\usepackage[separate-uncertainty=true,multi-part-units=single,
            product-units=single,list-units=single,range-units=single]{siunitx}
```

These determine key behaviour of the package commands. Please refer to the `siunitx` package documentation for details.

2.1.23 tabularx

The `tabularx` package allows tables with entries made up of longer pieces, multi-line, of running text.

2.1.24 tgheros

The `tgheros` package provides sans serif type faces which is a substitute for Helvetica (or Arial). This type face is for compiling in pdf \LaTeX .

2.1.25 tgtermes

The `tgtermes` package provide Gyre Termes (a Times Roman clone) as default roman family for pdf \LaTeX .

2.1.26 tikz

TikZ (Tikz ist kein Zeichenprogramm) is a tool to make line graphics directly ion the \LaTeX document. It has tools for many different type of graphics including flow diagrams and even data plots.

2.1.27 threeparttable

The `threeparttable` package provides new features to tables. Among other details the table caption is adapted to the width of the table. It is also possible to add notes to tables.

2.1.28 titlesec

The `titlesec` package is used in the style file to reformat the section heading formats.

2.2 Details of the `NgDissertation.sty`

The first part of the style file contains a test whether Xe \LaTeX or pdf \LaTeX is run. There are specific settings that are unique to the two implementations and by detecting and choosing the right setup the templates should work under both implementations without any differences. As can be seen from the excerpt below the main issues concern `hyperref` and fonts.

```
%-----
% Attempt to work for both PdfLaTeX and XeLaTeX
\usepackage{ifxetex}
\ifxetex
  \usepackage{fontspec}
  \setmainfont{Times New Roman}
  \setsansfont{Verdana}
  \usepackage[xetex]{hyperref}
  \usepackage[T1]{fontenc}
\else
  \usepackage{tgtermes}
  \usepackage[utf8]{inputenc}
  \usepackage{tgheros}
  \usepackage{hyperref}
\fi
```

The next section deals with default naming of certain chapters. In the Kappa the default name for references is ‘Bibliography’. Here we change this to ‘References’ we can also switch between British English and US English.

```
%-----
% Language settings
% babel to get appropriate headings for Swedish/English
\usepackage[swedish,USenglish,UKenglish]{babel}
\addto\captionsUKenglish{%
  \renewcommand{\bibname}%
    {References}%
}
\addto\captionsUSenglish{%
  \renewcommand{\bibname}%
    {References}%
}
\addto\captionsswedish{%
  \renewcommand{\bibname}%
    {Referenser}%
}
\renewcommand\dateUKenglish{\def\today{\number\day~%
\ifcase \month \or January\or February\or March\or April\or May\or June\or
July\or August\or September\or October\or November\or December\fi\space
\number\year}}
\dateUKenglish
\renewcommand\dateUSenglish{\def\today{\day\number~%
\ifcase \month \or January\or February\or March\or April\or May\or June\or
July\or August\or September\or October\or November\or December\fi\space
\number\year}}
\dateUSenglish
```

Next is a section including loading many of the packages used in the dissertation. These have been listed and described above so we will not detail the section more.

The next section calls the natbib package and makes certain changes to the default reference formatting. Among other things we leave no extra vertical space between references. The main corrections come from a specific code called natbibspacing.sty which is available separately on the web, its origin is not clear so I cannot provide a particular source.

```
%-----
% Setting up reference list and reference
% system using natbib package
\usepackage{natbib}
%-----
% natbibspacing.sty:
\newdimen\bibspacing
\makeatletter
\setlength\bibspacing\z@
\renewenvironment{thebibliography}[1]{%
\bibfont\bibsection\parindent \z@\list
  {\@biblabel{\arabic{NAT@ctr}}}{\@bibsetup{#1}}%
  \setcounter{NAT@ctr}{0}}%
  \ifNAT@openbib
    \renewcommand\newblock{\par}
  \else
    \renewcommand\newblock{\hspace .11em \@plus.33em \@minus.07em}%
  \fi
  \sloppy\clubpenalty4000\widowpenalty4000
  \sfcode\.=1000\relax
  \let\citeN\cite \let\shortcite\cite
  \let\citeasnoun\cite
    \itemsep\bibspacing %
    \parsep\z@skip %
}{\def\@noitemerr{%
  \PackageWarning{natbib}
    {Empty `thebibliography' environment}}%
  \endlist\vskip-\lastskip}
\makeatother
%-----
\setlength{\bibspacing}{0pt}
```

The next section calls `tikz` and `pgf` and defines all the Stockholm university colours. The colour definition command `definecolor` is actually part of the package `xcolor` which is called by `tikz` and therefore is implicitly always present.

```
%-----
% Define SU colours
\usepackage{tikz}
\definecolor{SUBBlue}{cmyk}{1.00,0.70,0.00,0.60}
\definecolor{SUOLive}{cmyk}{0.25,0.10,0.60,0.20}
\definecolor{SUSky}{cmyk}{0.35,0.00,0.10,0.00}
\definecolor{SUWater}{cmyk}{0.40,0.15,0.00,0.05}
\definecolor{SUFire}{cmyk}{0.00,0.65,1.00,0.00}
\definecolor{SUSilver}{cmyk}{0.12,0.08,0.08,0.23}
\definecolor{SUGold}{cmyk}{0.30,0.40,0.80,0.15}
\definecolor{SUref}{cmyk}{0.40,0.15,0.00,0.25}
```

The next section sets up `hyperref` so that links are invisible. Links are automatically generated for figures, tables, references and the table of contents within the document. Links to references will be coloured blue to easily identify references in the text. You also get access to the `href` command which allows you to link to external url:s and email addresses.

```
%-----
% Setup HyperRef behaviour
\hypersetup{
  pdftoolbar=true,           % show Acrobat's toolbar?
  pdfmenubar=true,          % show Acrobat's menu?
  pdfwindow=true,           % window fit to page when opened
  pdfstartview={FitH},      % fits the width of the page to the window
  pdfnewwindow=true,        % links in new window
  colorlinks=true,          % false: boxed links; true: colored links
  linkcolor=black,          % color of internal links (change box color with
                             % linkbordercolor)
  citecolor=SUref,          % color of links to bibliography
  filecolor=red,            % color of file links
  urlcolor=black            % color of external links
}
```

The next section uses `titlesec` to set up the section headings. Note that chapter only occur in the Kappa.

```
%-----
% Changing specs for headings
\usepackage{titlesec}
\makeatletter
\@ifclassloaded{book}{%
  {\titleformat{\chapter}[hang]
   {\normalfont\sffamily\Huge}
   {\thechapter}{20pt}{\Huge}}%
  {}
\makeatother
\titleformat{\section}
  {\normalfont\sffamily\Large}
  {\thesection}{1em}{}
\titleformat{\subsection}
  {\normalfont\sffamily}
  {\thesubsection}{1em}{}
\titleformat{\subsubsection}
  {\normalfont\sffamily}
  {\thesubsubsection}{1em}{}
}
```

The next section uses the `fancyhdr` package to set up the header and footer of the kappa and articles.

```
%-----
% Invoke special headers and page numbering
\usepackage{fancyhdr}
\renewcommand{\sectionmark}[1]{\markright{\thesection.\ #1}{} }
\pagestyle{fancy}
\fancyhead{}
```

```

\fancyhead[L0]{\scriptsize\itshape\AuthorName}
\fancyhead[RE]{\scriptsize\itshape\AbbrevTitle}
\fancyfoot[C]{\thepage}
\renewcommand{\headrulewidth}{0pt}
\fancypagestyle{plain}{%
\fancyhf{}
\fancyfoot[C]{\thepage}
\renewcommand{\headrulewidth}{0pt}
\renewcommand{\footrulewidth}{0pt}}

```

The next section uses the caption package to make global changes to the look of figure and table captions.

```

\usepackage[font={footnotesize,rm},format=plain,labelsep=period,
justification=justified,singlelinecheck=0]{caption}

```

Next are a few general settings that influence text and floats.

```

\raggedbottom
\makeatletter
\setlength{\@fptop}{0pt}
\makeatother

```

The `\raggedbottom` helps prevent unsightly spaces between paragraphs when \LaTeX tries to stretch the text to fill the text area. The next three lines changes settings for floats so that a single float on an otherwise empty page does not end up vertically centred on the page.

The next section sets up the entry for type setting manuscript and article references of work included in the dissertation. It also sets up the author contribution text. Authors only need to fill out these commands in the quantity they need.

```

%-----
% Entry for dissertation content table and author contribution content
% usage for dissertation article reference
% \DissertationContent{Enter article number}{Enter full reference}
% usage for dissertation contributorship description:
% \AuthorContrib{Enter article number}{Enter contribution text}
\newcommand{\DissertationContent}[2]{\textbf{#1} & \small \hangpara{5mm}{1}{#2} \\\}
\newcommand{\AuthorContrib}[2]{\textbf{#1} & \small #2 \\\}

```

The next section uses the authblk package to set up the article title, author and author affiliation for manuscripts.

```

%-----
% Uses authblk to design the author presentation
% and abstract of manuscripts in the dissertation.
\usepackage{authblk}
\makeatletter
\@ifclassloaded{article}%
{\renewcommand\Authfont{\sffamily\large}
\renewcommand\Affilfont{\sffamily\itshape\footnotesize}
\makeatletter
\renewcommand\@maketitle{%
\noindent\makebox[\textwidth][c]{%
\begin{minipage}{\textwidth}
\vskip 2em
\let\footnote\thanks
{\sffamily\LARGE\bfseries \@title \par}
\vskip 1.5em
{\@author \par}
\end{minipage}%
}
\vskip 1em \par
}\makeatother
}
\makeatother
%-----
\makeatletter

```

```

\@ifclassloaded{article}%
  {\renewenvironment{abstract}{%
    {\vspace{3mm}\noindent\sfamily\bfseries
     \abstractname\vspace{2mm}\vspace{0pt}}\}
    \noindent\begin{minipage}{\textwidth}\small}
    {\par\noindent\end{minipage}}
  }
  {}
\makeatother

```

Finally we format the behaviour of appendices in the article class to ensure that tables, figures and equation numbers are preceded by the ordering letter of the appendix.

```

%-----
% Adjusting float numbers in appendix of article
\newcommand{\AppendixNumbering}{%
\renewcommand{\thefigure}{\thesection\arabic{figure}} \setcounter{figure}{0}
\renewcommand{\thetable}{\thesection\arabic{table}} \setcounter{table}{0}
\renewcommand{\theequation}{\thesection\arabic{equation}}
\setcounter{equation}{0}
}

```

3 The ‘Kappa’ template

The Kappa template is based on the L^AT_EX book class. This means you can expect all the features available in the book class to apply in this template. In the following I will detail the parts where you need to make adjustments. There are additional commands and instructions in the file that should not be touched. these are labelled by a comment stating they should not be removed.

The Kappa template file contains a few input fields that you need to attention. The first few lines contains two sections:

```

% British English thesis uncomment:
\selectlanguage{UKenglish}
% American English thesis uncomment:
% \selectlanguage{USenglish}
%-----

```

Here you can select if you are using British English (UKenglish) or American English (USenglish) by simply commenting out the option you do not want.

The Swedish Sammanfattning is entered in an identical way. Make sure the Sammanfattning does not exceed one page in length. I estimate this to possibly 4500 characters including spaces.

The author articles (and manuscripts) included in the dissertation are listed using the following code

```

{\renewcommand{\arraystretch}{1.4}
\noindent\begin{tabularx}{130mm}{1 X}
\DissertationContent{I}{Formatted reference text within curly brackets}
\DissertationContent{II}{}
\DissertationContent{III}{}
\DissertationContent{IV}{}
\end{tabularx}
}

```

There needs to be one `\DissertationContent` command for each article. You need to manually number the articles. In the example I have chosen to number using roman capital numerals instead of arabic. This is because the roman numerals differ from remaining text and makes references to, for example ‘Article II’ stand out better than ‘Article 2’. You can chose whichever system you wish but make sure the same numeral system is used throughout the Kappa when referencing the appended articles.

Following the content is the description of author contributions. This section is similar to the one for the articles but uses a slightly different command

```

{\renewcommand{\arraystretch}{1.4}
\noindent\begin{tabularx}{130mm}{1 X}\small
\AuthorContrib{I}{Author contribution text between brackets.
Separate any paragraphs within the text with empty line and \vskip1mm

before the next paragraphs starts}
\AuthorContrib{II}{}
\AuthorContrib{III}{}
\AuthorContrib{IV}{}
\end{tabularx}
}

```

As can be seen above the command `\AuthorContrib` should contain a running text describing the contributions of all authors. This can be done in several way, either by listing each author and what they have contributed. Or, by listing different important scientific aspects of the research process including original idea, field work, analysis, and writing.

If the text for a specific article consists of more than one paragraph, then paragraphs need to be separated by an empty line and `\vskip1mm` as in the code above.

The remaining Kappa template follows the ordinary book class in that the highest order for headings is the chapter followed by section and subsection. I strongly advice against using the fourth level `\subsubsection{}`.

4 The manuscript template

The manuscript template is based on the article class. Hence it will be similar to any other manuscript you have authored in \LaTeX . The manuscript template does not contain much that differs from an ordinary article so I will focus only on the parts that differ.

The first section for title and authors differs from the normal article class

```

%-----
% Fill in the following; adjust as needed
\title{`This is the title for my article`}
\author[1]{First Author}
\author[2]{Second Author}
\author[3]{Third Author}
\author[2]{Fourth Author} %add more if needed
\affil[1]{Address of first author}
\affil[2]{Address of second and fourth author}
\affil[3]{Address of third author}
\maketitle% do not remove

```

As you can see you provide the title as usual in a title field. The authors are then entered separately on a separate line for each using the `\author` command. The number associated with each name corresponds to the affiliation entries you provide below. As you can see from the example, this is how you couple names to their affiliations. You need to adjust the number of fields depending on the number of authors.

The abstract is entered as regular text in a specified abstract environment:

```

%-----
% Manuscript abstract
\begin{abstract}

\end{abstract}

```

You do not need to provide the word ‘Abstract’ since that will be automatically inserted.

There are no other features in the template that differs from a regular article class file.

5 Referencing

Both templates use the `natbib` package for author–date type referencing. In the templates, I have set up the bibliography for using the fully automatic referencing using a \BibTeX data base file. If you use the fully automatic system, I have supplied a bibliography style file with the template. This style is the Council of Science Editors (CSE) style which is a general and simple style. If you use a \BibTeX data

base for your referencing, this will be a useful style to follow. Please check the `natbib` documentation for details.

6 Figures

The template uses the `graphicx` package for handling graphics. This package can handle most graphics formats. For line graphics I can recommend using PNG format unless you wish to include pdf vector based graphics. I have found that a horizontal pixel count of 1500 provides a very good standard for ‘textwidth’-size figures. PNG compresses well but should not be used for photographs. Low compression JPG is a good middle way for photographic images. TIFF images are generally the best but provide no significant compression and will thus not keep file sizes down.

Please make sure that any bitmap image has a resolution of about 300 dpi at the physical scale it will be reproduced. Note also that you should scale the image as a fraction of the `\textwidth` in the `\includegraphics` command. Please refer to the `graphicx` documentation for details on using graphics in \LaTeX .

7 Tables

Tables are among the more laborious items to typeset. In the template several packages are loaded that provide additional features to the standard \LaTeX features. The packages are `booktabs`, `dcolumn`, `multirow` and `tabularx`. Please refer to the documentation for details. With `dcolumn`, I have defined an alignment which aligns numbers on their decimal point. This is accomplished by using a `d` as alignment in the tabular environment. You can, of course, make your own definitions with `dcolumn` or look into the `siunitx` package

8 Using text from Word in the templates

Essentially you can copy text directly from Word to \LaTeX . There are, however, a few pitfalls. There exists translation tools that will take a Word file and generate a \LaTeX -file. Although these do a good job when looking at the end result, my experience is that the translations are overly complicated and I have stayed clear of them. I will outline a simple work-flow for transferring text without running into too many problems. Key as always is to keep good attention to details.

As for the differences between Word and \LaTeX , you must remember that paragraphs in \LaTeX are identified by an empty line, this is not the case in Word. I strongly urge you to insert empty lines between paragraphs in word before copying text into your \LaTeX -editor. Any formatting you have done in Word will be lost. This means you need to reformat the text, for example, bold and italics, font sizes, super and sub-scripts, once it is in your \LaTeX -editor. It is therefore not necessary to spend an inordinate amount of time formatting the text in Word if you can avoid it. In addition, you need to make sure the symbols used in a manuscript are correctly converted. Mathematical formulas made with the equation editor in Word are not translated at all.

Mathematical notation, is best displayed if you reformulate them in correct \LaTeX code. You will run into problems if you have used the \pm sign, a δ or other symbols in Word and keep them in your \LaTeX -file, if nothing else they will simply appear as a blank space but can also cause an ‘unknown character’ error. I should also mention that you should pay special attention to mathematical notation since this is for what \LaTeX was originally developed and hence is completely superior at handling as long as you do it correctly.

If you cut and paste a large chunk of a word file into \LaTeX , you are almost begging for problems. I have found that the best way to move text between the systems is to do it paragraph by paragraph. You may think this is backwards but the benefit is that you can compile the text after each added paragraph and if an error suddenly appears, the problem should be possible to spot in the new paragraph. Note that this does not necessarily mean you must copy text one paragraph at a time, you can copy it all but then insert the `\end{document}` command after the first paragraph, compile and then move the command to after the following paragraph and recompile until you have gone through the entire document. Even if you write material directly in \LaTeX and you are not savvy, then compiling often is a good way to stay clear of lengthy debugging sessions.