# LaTex submissions for the Journal of Web Semantics

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**Abstract**

We discuss the preparation of articles for the Journal of Web Semantics using Elsevier's `elsart` and the `elsart3p` document styles with numbered style bibliographic references. The first is a single column format suitable for preprints and the second closely approximates the format used to prepare the journal. We recommend that you use `elsart3p` to check that your submission is of appropriate length and that figures, tables, and other forms of non-running text fit into the format used by JWS. This document was adapted from an example written by Simon Pepping of Elsevier.

*Key words:* Journal of Web Semantics, Latex, template, `elsart`, `elsart3p`

## 1 Introduction

This article describes how to prepare articles with Elsevier's `elsart` and `elsart3p` document classes. `elsart3p` produces output that is very close what is actually used by Elsevier to prepare your paper. Using this allows you to have a very accurate idea of how your paper will appear in the JWS. `elsart` is a single column format and is useful for preparing a preprint. For more general information about LaTeX, see Leslie Lamport's manual [3].

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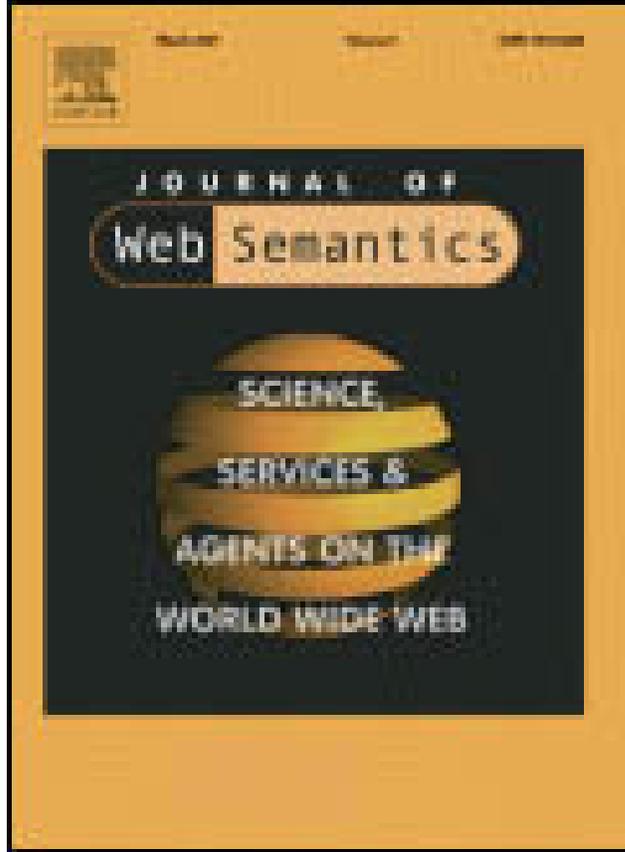`miz@ei.sanken.osaka-u.ac.jp` (Riichiro Mizoguchi).

Fig. 1. This figure of the JWS cover will appear in a column and its width scaled to be 60% of the column's width.

## 2   The Journal of Web Semantics

The Journal of Web Semantics is an interdisciplinary journal based on research and applications of various subject areas that contribute to the development of a knowledge-intensive and intelligent service Web. These areas include: knowledge technologies, ontology, agents, databases and the semantic grid, obviously disciplines like information retrieval, language technology, human-computer interaction and knowledge discovery are of major relevance as well. All aspects of the Semantic Web development are covered. The publication of large-scale experiments and their analysis is also encouraged to clearly illustrate scenarios and methods that introduce semantics into existing Web interfaces, contents and services. The journal emphasizes the publication of papers that combine theories, methods and experiments from different subject areas in order to deliver innovative semantic methods and applications.

The Journal of Web Semantics addresses various prominent application areas including: e-business, e-community, knowledge management, e-learning, digital libraries and e-sciences. It publishes high quality papers that cover theoretical issues, methods, tools, system descriptions and applications. Pa-

pers should be normal journal-length or short, descriptive papers e.g. systems or applications. Special sections will cover conference and workshop reports as well as book reviews.

### 2.1 JWS Web site

The Journal of Web Semantics features a multi-purpose web site [1] . Accepted papers are immediately available online (associated with appropriate metadata) and readers are able to annotate documents with additional comments and links to related material. The unique character of the journal makes it possible to extend the scope beyond traditional journals. Open-source software and tools that help to advance the field more rapidly, will be published and demonstrated based on a rigorous review and selection process. Submissions are especially encouraged that demonstrate the amalgamation of papers and code-content that goes beyond the range of traditional print journals. The web site itself is also available to interested researchers as a test site for developing and refining Semantic Web technologies and for conduction of user studies (please contact the Online Editor-in-Chief for further information).

### 2.2 Topic areas

The Journal of Web Semantics includes, but is not limited to, the following major technology areas: the Semantic Web; knowledge technologies; ontology; agents; databases; semantic grid and peer-to-peer technology; information retrieval; language technology; human-computer interaction; knowledge discovery and Web standards. Major application areas that are covered by the Journal of Web Semantics are: eBusiness; eCommunity; knowledge management; eLearning; digital libraries and e-Science.

## 3 Latex files

Elsevier has prepared the following LaTeX support files for authors, as shown in table 1. The files are freely available from Elsevier's Author Gateway [2] .

Elsevier's LaTeX files can also be obtained from one of the servers of the Comprehensive TeX Archive Network (CTAN), a mirrored network of FTP servers,

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[1] Currently http://www.semanticwebjournal.org/ but expected to change in summer 2007

[2] http://authors.elsevier.com/locate/latex

| elsart.cls | single column preprint format that is good for a review copy |
|---|---|
| elsart3p.cls | two column journal format approximates how Elsevier will typeset your article |
| elsart-num.bst | JWS's bibliography style – numbered references listed alphabetically by author |

Table 1
The key latex files you will need to put in your directory if they are not already installed on your system. This table will run across both columns and use 85% of the width and appear at the at top or bottom of a page.

with sever web interfaces[3]. The network is widely mirrored[4] and holds up-to-date copies of all the public-domain versions of TEX, LATEX, Metafont and ancillary programs. CTAN is not related to Elsevier, and that Elsevier's author support cannot accept complaints or answer questions about the availability of any CTAN server. The non-Elsevier macro packages recommended later in this document and many other useful macro packages can also be obtained from CTAN. In the following sections we show how you may use the elsart document class.

## 4 Options

The elsart document class enables the following options:

**doublespacing, reviewcopy** This is a single option with two names to obtain double line spacing.

**seceqn, secthm** The option seceqn numbers the equation environments per section. The option secthm does the same for the thm environment. In elsart all predefined theorem environments except Algorithm, Note, Summary and Case use the same counter as the thm environment.

**draft, final** As in many other document classes, these are options to produce draft and final layout. In the draft layout you will see warnings for overfull boxes. You also need draft layout to test your formulas on a narrower display width, see option narrowdisplay.

**narrowdisplay** The Journal of Web Semantics uses a two column format. Because the preprint layout uses a larger line width than such columns, the formulas are too wide for the line width in print. In draft mode (see the draft option) you can use the narrowdisplay option to force a narrower width for displayed formulas. The width is roughly equal to the column width of the printed journals, compensated for the larger font size of the preprint layout. The narrowdisplay option is ineffective with packages which redefine the equation environments, such as amsmath.

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[3] www.tex.ac.uk, www.dante.de/software/ctan and www.ctan.org
[4] http://www.tug.org/tex-archive/CTAN.sites

The `narrowdisplay` option is especially useful for journals for which the articles are printed from the author's LATEX file. When you break your formulas such that they fit in the narrow column width, the typesetter will be able to retain most of your breaks. Article for other journals are printed after transformation to an XML file. For such journals the formula layout in the LATEX file is always lost in the transformation. The narrow display width is obtained by giving the formulas a larger indent. Too wide formulas in the one-line display environments `equation` and `displaymath` will show an overfull rule.

## 5 Print layout

Elsevier also makes available a few document classes that roughly reproduce the layout of the printed journals. The majority of Elsevier journals use one of a small set of standard layouts. We have document classes for three of those layouts:

**elsart1p** text width 32 picas (134 mm), text height 47 lines, one column.
**elsart3p** text width 39 picas (164 mm), text height 51 lines, one or two columns.
**elsart5p** text width 43.5 picas (183 mm), text height 57 lines, two columns.

These classes can be used in the same way as elsart. If you prepared an article for elsart, you can run it with one of these print layout classes without changes to the markup. In fact, they use elsart and you must have elsart on your system as well. Note that the layout is only roughly the same as that of the printed journal. One major source of differences is the font. The printer uses a different font with different character widths, which will cause deviations in layout. There are various other sources of small differences. You cannot use the layout of one of these classes to make claims on the final layout of your article.

## 6 Frontmatter

The `elsart` document class has a separate `frontmatter` environment for the title, authors, addresses, abstract and keywords.

- `\title`: The title command works as in standard LATEX, e.g. `\title{Semantic Pudding}`.
- `\author`: The author command is different from standard – it contains only one author and no address. Multiple authors go into multiple `\author` commands, separated from each other by commas. The address goes into a

separate `\address` command. Example: `\author{D.E. Knuth}`.

- `\address`: Here goes the address, e.g. `\address{Baltimore, MD USA}`.
- `\thanks` and `\thanksref`: These provide footnotes to the title, authors and addresses. The `\thanksref` command takes a label: `\thanksref{label}` to relate it to the `\thanks` command with the same label: `\thanks[label]`. There can be several references to a single `\thanks` command. Example: `\title{Model\thanksref{titlefn}}` and
`\thanks[titlefn]{Supported by grants.}`
- `\corauth` and `\corauthref`: These provide footnotes to mark the corresponding author and the correspondence address. They are used in the same manner as `\thanks` and `\thanksref`. Example: `\author{A. Name\corauthref{cor}}` and
`\corauth[cor]{Corresponding author. Address: ... .}`
- `\ead`: This command should be used for the email address or the URL of the author. It refers to the 'current author', i.e., the author last mentioned before the command. When it holds a URL, this should be indicated by setting the optional argument to 'url'. Example: `\ead{s.pepping@elsevier.com}`, `\ead[url]{authors.elsevier.com/locate/latex}`.

It is not necessary to give a `\maketitle` command. The title, authors and addresses are printed as soon as TeX sees them.

The authors and addresses can be combined in one of two ways:

- The simplest way lists the authors of one address or one group of addresses, followed by the address or addresses, and so on for all addresses or groups of addresses.
- The other way first lists all authors, and then all addresses. The authors and addresses are related to each other by labels: `\author[label1]{Name1}` corresponds to `\address[label1]{Address1}`. Example:
`\author[South]{T.R. Marsh}`,
`\author[Oxford]{S.R. Duck}`
`\address[South]{University of Southampton, UK}`
`\address[Oxford]{University of Oxford, UK}`

If you put the frontmatter in an included file, that file should contain the whole frontmatter, including its `begin` and `end` commands. Otherwise, the labels of the frontmatter will remain undefined.

## 7 Abstract

The abstract should be self-contained. Abstracts usually do not cite references. If you feel a need to do so, do not refer to the list of references but rather

quote the reference in full, e.g., Wettig & Brown (1996, NewA, 1, 17).

## 8 Keywords

In electronic publications a proper classification is more important than ever. The journal of Web Semantics uses *uncontrolled keywords* provided by authors. To maximize the consistency with which such keywords are assigned by different authors, the following guidelines have been drawn up.

- Each keyword (which can be a phrase of more than one word) should describe one single concept. Often words like "and" or "of" should be avoided.
- Avoid very general keywords which become meaningless once in a keyword list. Examples to avoid are "action", "computer", "Web". Check whether the keywords as a whole describe the outlines of the article.
- Use natural language: for instance "automatic error recovery" rather than "error recovery, automatic".
- Use simple nouns and adjectives as much as possible (i.e. use "automatic error recovery" rather than "recovering errors automatically"). Do not use nouns in the plural form.
- Avoid the use of abbreviations as much as possible, unless an abbreviation is so well-established that the full term is rarely used (e.g. use "laser" instead of "Light Amplification by Stimulated Emission of Radiation", but use "computer aided design" instead of "CAD").

Keywords are entered below the abstract in the following way:

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\begin{keyword}
Keyword \sep Keyword
\end{keyword}
```

## 9 Cross-references

In electronic publications articles may be internally hyperlinked. Hyperlinks are generated from proper cross-references in the article. For example, the words Fig. 1 will never be more than simple text, whereas the proper cross-reference `\ref{mapfigure}` may be turned into a hyperlink to the figure itself. In the same way, the words Ref. [1] will fail to turn into a hyperlink; the proper cross-reference is `\cite{goble2001}` as in [2]. Cross-referencing is possible in LaTeX for sections, subsections, formulae, figures, tables, and literature references.

## 10   PostScript figures

LaTeX and PostScript have had a long and successful relationship. There are three packages for including PostScript figures:

- `graphics`. This simple package provides the command `\includegraphics*[<llx,lly>][<urx,ury>]{file}`. The * is optional; it enables the PostScript feature of clipping. In its simplest form, `\includegraphics{file}`, it includes the figure in the PostScript file `file` without resizing.
- `graphicx`. This package provides the command `\includegraphics*[key--value list]{file}`. The * is optional; it enables the PostScript feature of clipping. Often used keys are:
  - `scale=.40` to scale the size of the figure with 40%,
  - `width=25pc`, `height=15pc` to set the width or height of the figure,
  - `angle=90` to rotate the figure over 90°.
- `epsfig`. This package is really the `graphicx` package, but it allows one to include PostScript figures using the familiar commands from the earlier packages `epsfig` and `psfig`.

For detailed information, see the documentation of the `graphics` packages, in particular the file `grfguide.tex`.

## 11   Mathematical symbols

Many authors require more mathematical symbols than the few that are provided in standard LaTeX. A useful package for additional symbols is the `amssymb` package, developed by the American Mathematical Society. This package includes such oft used symbols as `\lesssim` for $\lesssim$, `\gtrsim` for $\gtrsim$ or `\hbar` for $\hbar$. Note that your TeX system should have the `msam` and `msbm` fonts installed. If you need only a few symbols, such as `\Box` for $\Box$, you might try the package `latexsym`. In the `elsart` document class vectors are preferably coded as `\vec{a}` instead of `\bf{a}` or `\pol{a}`.

## 12   The Bibliography

In LaTeX literature references are listed in the `thebibliography` environment. Each reference is a `\bibitem`; each `\bibitem` is identified by a label, by which it can be cited in the text: `\bibitem{ESG96}` is cited as `\cite{finin94cikm}`.
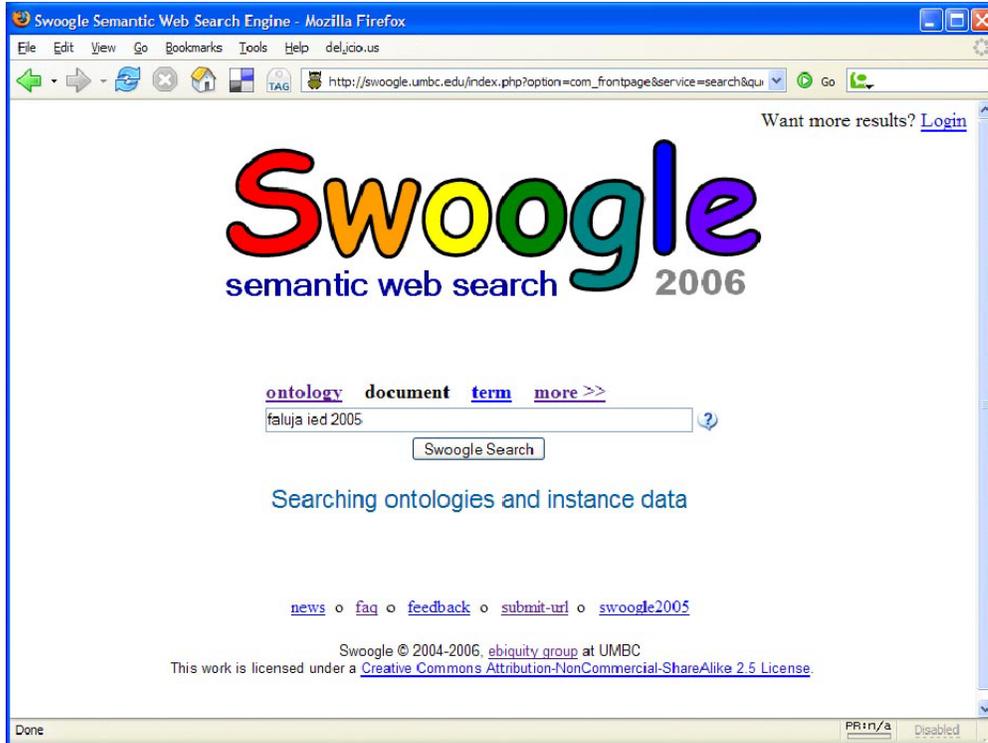
Fig. 2. This figure will be scaled to be 95% of the width of a single column and also appear in a single column when using either elsart or elsart3p.
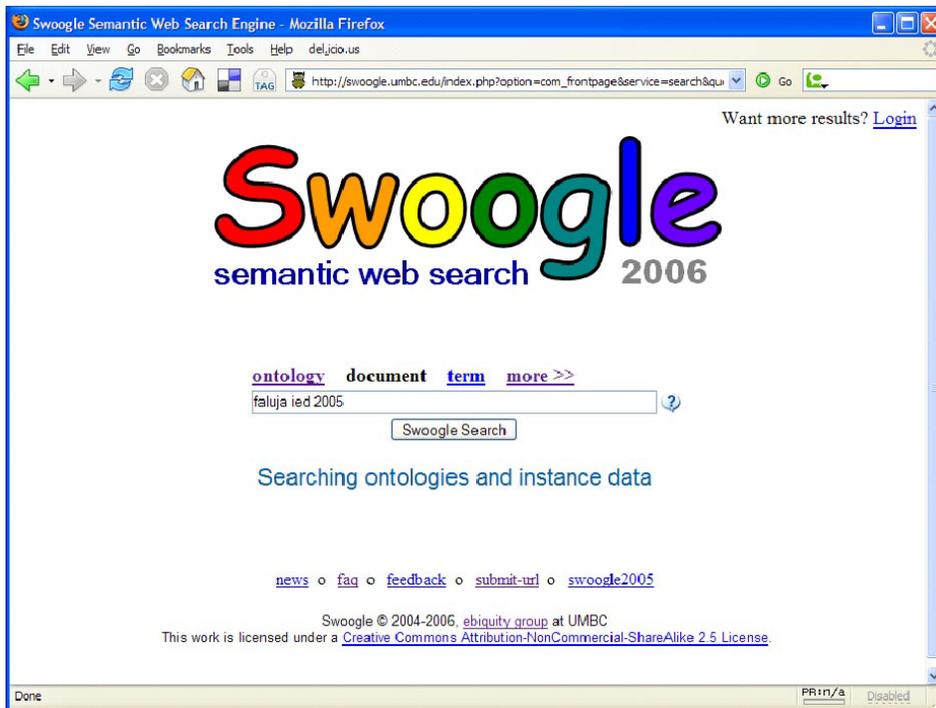


Fig. 3. This figure will be saled to be 90% of the width of the text on the page and run across all columns in either elsart or elsart3p.

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## 13  Final Comments

There is a template article `templat-num.tex`, which you can use as a skeleton for your own article. It is available from Elsevier's Author Gateway [5] .

## References

[1] T. Finin, R. Fritzson, D. McKay, McEntire, KQML as an Agent Communication Language, in: Proceedings of the 3rd International Conference on Information and Knowledge Management (CIKM'94), ACM Press, 1994.

[2] C. Goble, R. Stevens, G. Ng, S. Bechhofer, N. Paton, P. Baker, M. Peim, A. Brass, Transparent access to multiple bioinformatics information sources, IBM Systems Journal 40 (2) (2001) 532–551.

[3] L. Lamport, LATEX: a document preparation system: user's guide and reference manual, Addison-Wesley Longman Publishing Co., Inc. Boston, MA, USA, 1994.

[4] D. Nardi, R. J. Brachman, An introduction to description logics, in: The description logic handbook: theory, implementation, and applications, Cambridge University Press New York, NY, USA, 2003, pp. 1–40.

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5  http://authors.elsevier.com/locate/latex