

# **workaddress.sty**: An Infrastructure for managing Addresses and Affiliations in L<sup>A</sup>T<sub>E</sub>X\*

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## **Abstract**

The **workaddress** package allows manage addresses and Affiliations in a  
bibT<sub>E</sub>X-like manner.<sup>1</sup>

EdN:1

## **Contents**

|          |  |          |
|----------|--|----------|
| <b>1</b> | <b>Introduction</b>                    | <b>2</b> |
| <b>2</b> | <b>The User Interface</b>              | <b>2</b> |
| 2.1      | Package Options . . . . .              | 2        |
| 2.2      | Database Entries for Persons . . . . . | 2        |
| 2.3      | Institutions . . . . .                 | 3        |
| 2.4      | Applications . . . . .                 | 4        |
| <b>3</b> | <b>Limitations</b>                     | <b>4</b> |
| <b>4</b> | <b>The Implementation</b>              | <b>4</b> |
| 4.1      | Package Options . . . . .              | 4        |
| 4.2      | Persons . . . . .                      | 4        |
| 4.3      | Institutions . . . . .                 | 6        |
| 4.4      | Applications . . . . .                 | 7        |

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<sup>1</sup>EdNOTE: continue

EdN:2

## 1 Introduction

The `workaddress` package allows manage Addresses and affiliations of persons in a `bibTeX`-like manner.<sup>2</sup>

## 2 The User Interface

### 2.1 Package Options

`showmeta` The `workaddress` package takes a single option: `showmeta`. If this is set, then the metadata keys are shown (see [Koh15] for details and customization options).

### 2.2 Database Entries for Persons

The `workaddress` package recognizes that from a metadata perspective, persons are complex entities. In particular, specifying metadata is a tedious and repetitive task that leads to embarrassing errors. Therefore the `workaddress` package takes a hint from `bibTeX` and allows to specify personal metadata in a database and use it by a database key. The `\WAperson` macro allows to specify personal metadata<sup>3</sup>

```
\WAperson[id=jdoe,affiliation=dfki,department=skss,
          url=http://dfki.de/jdoe]
{John Doe}
\WAperson[id=miko,affiliation=jacu,department=case,
          url=http://kwarc.info/kohlhase]
{Michael Kohlhase}
```

**Example 1:** A small database of Persons

EdN:3

`\WAperson`

with the following keys:

---

<sup>2</sup>EDNOTE: continue

<sup>3</sup>EDNOTE: This should be synchronized with the FOAF specification [BM07]

| key           | value            | comment  |
|---------------|------------------|--|
| id            | string           | identifier of this person                              |
| birthdate     | date             | birthdate  |
| email         |                  | the primary e-mail address                             |
| url           | URI              | primary home page                                      |
| affiliation   | Inst. identifier | the primary professional affiliation                   |
| personaltitle | string           | the personal title e.g. <b>King</b>                    |
| academictitle | string           | the academic title e.g. <b>Prof. Dr.</b>               |
| department    | Inst. identifier | the department specified in the work address           |
| workaddress   | long string      | the work address                                       |
| privaddress   | long string      | the private address                                    |
| worktel       | string           | work telephone number                                  |
| privtel       | string           | private telephone number                               |
| workfax       | string           | work fax number  |
| privfax       | string           | private fax number                                     |
| worktelfax    | string           | if the phone and fax share a prefix, give this as well |
| privtelfax    | string           | dito   |

In Figure 1 we have specified (minimal) metadata for the authors of the **workaddress** package. The metadata can be accessed by specifying the identifiers (given by the **id** key) in the **workaddress** macros defined below, see for instance the **\WAcreeators** macro in Figure ??, which leads to the title block of this note.

Like in bibTeX [Pat], it is a good idea to collect the metadata in a separate file that is input in the document. In practice it may be possible to generate these files from conventional address databases.

## 2.3 Institutions

Institutions are treated analogously to persons. The **\Wainstitution** macro al-

```
\Wainstitution[id=case,partof=jacu,acronym=CASE,
               url=http://jacobs-university.de/ses/case]
  {Center for Advanced Systems Engineering}
\Wainstitution[id=jacu,url=http://jacobs-university.de]
  {Jacobs University Bremen}
\Wainstitution[id=skss,partof=dfki,url=http://dfki.de/sks,acronym=SKS]
  {Safe and Secure Cognitive Systems}
\Wainstitution[id=dfki,url=http://dfki.de,shortname=DFKI,acronym=DFKI]
  {German Research Center for Artificial Intelligence}
```

**Example 2:** A small Database of Institutions and their Parts

**\Wainstitution**

lows to specify personal metadata<sup>4</sup> with the following keys:

<sup>4</sup>EDNOTE: This should be synchronized with the FOAF specification [BM07]

| key    | value            | comment                   |
|--------|------------------|---------------------------|
| id     | string           | identifier of this person |
| url    | URI              | primary home page         |
| partof | Inst. identifier | parent institution        |

## 2.4 Applications

The data from the address database can be used in various ways. For instance, the `\WAauthorblock` macro creates a block of users and their affiliations. In the context of the database from Figures 1 and 2, `\WAauthorblock{miko,jdoe}` creates

Michael Kohlhase   John Doe

`\wa@institution@logo`   `\wa@institution@logo` creates the logo of an institution from the database, and (if that is not there create a box and a message instead.)

## 3 Limitations

In this section we document known limitations. If you want to help alleviate them, please feel free to contact the package author. Some of them are currently discussed in the `sTeX` GitHub repository [sTeX].

1. none reported yet

## 4 The Implementation

### 4.1 Package Options

The first step is to declare (a few) package options that handle whether certain information is printed or not. They all come with their own conditionals that are set by the options.

```

1 <*package>
2 \DeclareOption*{\PassOptionsToPackage{\CurrentOption}{sref}}
3 \ProcessOptions

```

The first measure is to ensure that the `KeyVal` package is loaded (in the right version). For `LATEXML` we also initialize the package inclusions.

```

4 \RequirePackage{sref}

```

### 4.2 Persons

To implement the `\WAperson` macro, we need to implement its keywords.

```

5 \addmetakey*{wa@person}{id}
6 \addmetakey*{wa@person}{birthdate}
7 \addmetakey*{wa@person}{email}
8 \addmetakey*{wa@person}{url}

```

```

9 \addmetakey*{wa@person}{affiliation}
10 \addmetakey*{wa@person}{personaltitle}
11 \addmetakey*{wa@person}{academictitle}
12 \addmetakey*{wa@person}{department}
13 \addmetakey*{wa@person}{workaddress}
14 \addmetakey*{wa@person}{privaddress}
15 \addmetakey*{wa@person}{worktel}
16 \addmetakey*{wa@person}{privtel}
17 \addmetakey*{wa@person}{workfax}
18 \addmetakey*{wa@person}{privfax}
19 \addmetakey*{wa@person}{worktelfax}
20 \addmetakey*{wa@person}{privtelfax}

```

`\wa@def` The next macro is an auxiliary one that puts the value into an appropriate token register.

```

21 \def\wa@def#1#2#3#4{\expandafter\xdef\csname wa@#1@#2@#3\endcsname{#4}}

```

`\wa@ref@test` This macro tests whether the information specified is defined, and gives an error message else.

```

22 \def\wa@ref@test#1#2#3{%
23   \ifundefined{wa@#1@#2@#3}{%
24     \PackageError{workaddress}{reference to undefined #3 of #1 #2}%
25     {you must define a #1 with #2=#3\MessageBreak%
26     via the macro \protect\WA#1, before you can use it!}%
27   }{%
28 }%

```

With this, referencing is simple

`\wa@ref`

```

29 \def\wa@ref#1#2#3{%
30   \wa@ref@test{#1}{#2}{#3}%
31   \csname wa@#1@#2@#3\endcsname%
32 }%

```

With this we can define the `\WAperson` macro, it just clears the keys, sets them again, and stores them in token registers. If course only if a `id` attribute is given, else we raise an error.

`WAperson`

```

33 \let\wa@persons=\relax
34 \newcommand\WAperson[2][]{%
35   \metasetkeys{wa@person}{#1}%
36   \ifx\wa@person@id@empty%
37     \latex@warning{key 'id' undefined in WAperson}%
38   \else%
39     \wa@def{person}\wa@person@id{id}\wa@person@id}% redundant, but useful for checking
40     \wa@def{person}\wa@person@id{name}{#2}
41     \wa@def{person}\wa@person@id{email}\wa@person@email}

```

```

42 \wa@def{person}\wa@person@id{birthdate}{\wa@person@birthdate}
43 \wa@def{person}\wa@person@id{url}{\wa@person@url}
44 \wa@def{person}\wa@person@id{affiliation}{\wa@person@affiliation}
45 \wa@def{person}\wa@person@id{workaddress}{\wa@person@workaddress}
46 \wa@def{person}\wa@person@id{privaddress}{\wa@person@privaddress}
47 \wa@def{person}\wa@person@id{personalttitle}{\wa@person@personalttitle}
48 \wa@def{person}\wa@person@id{academictitle}{\wa@person@academictitle}
49 \wa@def{person}\wa@person@id{department}{\wa@person@department}
50 \wa@def{person}\wa@person@id{workaddress}{\wa@person@workaddress}
51 \wa@def{person}\wa@person@id{privaddress}{\wa@person@privaddress}
52 \wa@def{person}\wa@person@id{worktel}{\wa@person@worktel}
53 \wa@def{person}\wa@person@id{privtel}{\wa@person@privtel}
54 \wa@def{person}\wa@person@id{workfax}{\wa@person@workfax}
55 \wa@def{person}\wa@person@id{privfax}{\wa@person@privfax}
56 \wa@def{person}\wa@person@id{worktelfax}{\wa@person@worktelfax}
57 \wa@def{person}\wa@person@id{privtelfax}{\wa@person@privtelfax}
58 \@ifundefined{wa@persons}{%
59 \xdef\wa@persons{\wa@person@id}%
60 }{%
61 \xdef\wa@persons{\wa@persons,\wa@person@id}%
62 }%
63 \fi%
64 }%
65 \newcommand\DCMperson[2][]{%
66 \WAperson[#1]{#2}%
67 \PackageWarning{workaddress}{\protect\DCMperson\space is deprecated, use \protect\WAperson\space}
68 }%

```

### 4.3 Institutions

To implement the `\WAinstitution` macro, we need to implement its keywords first.

```

69 \addmetakey*{wa@institution}{id}
70 \addmetakey*{wa@institution}{shortname}
71 \addmetakey*{wa@institution}{acronym}
72 \addmetakey*{wa@institution}{url}
73 \addmetakey*{wa@institution}{partof}
74 \addmetakey*{wa@institution}{countryshort}
75 \addmetakey*{wa@institution}{logo}
76 \addmetakey*{wa@institution}{streetaddress}
77 \addmetakey*{wa@institution}{townzip}
78 \addmetakey*{wa@institution}{type}
79 \addmetakey*{wa@institution}{country}

```

and we proceed as for `\WAperson`,

```

80 \let\wa@institutions=\relax

```

`WAinstitution`

```

81 \newcommand\WAinstitution[2][]{%

```

```

82 \metasetkeys{wa@institution}{#1}%
83 \ifx\wa@institution@id\empty%
84 \latex@warning{key 'id' undefined in WAinstitution}%
85 \else%
86 \wa@def{institution}\wa@institution@id{id}{\wa@institution@id}% redundant, but useful for c
87 \wa@def{institution}\wa@institution@id{name}{#2}
88 \wa@def{institution}\wa@institution@id{shortname}{\wa@institution@shortname}
89 \wa@def{institution}\wa@institution@id{acronym}{\wa@institution@acronym}
90 \wa@def{institution}\wa@institution@id{url}{\wa@institution@url}
91 \wa@def{institution}\wa@institution@id{partof}{\wa@institution@partof}
92 \wa@def{institution}\wa@institution@id{countryshort}{\wa@institution@countryshort}
93 \wa@def{institution}\wa@institution@id{logo}{\wa@institution@logo}
94 \wa@def{institution}\wa@institution@id{townzip}{\wa@institution@townzip}
95 \wa@def{institution}\wa@institution@id{streetaddress}{\wa@institution@streetaddress}
96 \wa@def{institution}\wa@institution@id{country}{\wa@institution@country}
97 \wa@def{institution}\wa@institution@id{type}{\wa@institution@type}
98 \@ifundefined{wa@institutions}{%
99 \xdef\wa@institutions{\wa@institution@id}%
100 }{%
101 \xdef\wa@institutions{\wa@institutions,\wa@institution@id}%
102 }%
103 \fi%
104 }%
105 \newcommand\DCMinstitution[2][{}]{%
106 \WAinstitution{#1}{#2}%
107 \PackageWarning{workaddress}{\protect\DCMinstitution\space is deprecated, use \protect\WAinst
108 }%

```

## 4.4 Applications

`\WAauthorblock` This internal macro builds an author block from a list of `\WAperson` labels in `\wa@creators`.

```

109 \addmetakey[false]{WAauthorblock}{dept}[true]
110 \addmetakey[false]{WAauthorblock}{aff}[true]
111 \addmetakey[false]{WAauthorblock}{url}[true]
112 \def\@true{true}
113 \newcounter{authors}
114 \newcommand\WAauthorblock[2][{}]{%
115 \metasetkeys{WAauthorblock}{#1}
116 {\let\tabularnewline\relax
117 \@for\@I:=#2\do{\stepcounter{authors}}
118 \def\@authors{}%
119 \def\@affs{}%
120 \def\@depts{}%
121 \def\@urls{}%
122 \@for\@I:=#2\do{%
123 \xdef\@authors{\@authors&\wa@ref{person}\@I{name}}
124 \xdef\@dept{\wa@ref{person}\@I{department}}
125 \xdef\@shortname{\csname wa@institution@\@dept @shortname\endcsname}

```

```

126     \xdef\@dept{\ifx\@shortname\@empty\wa@ref{institution}\@dept{name}\else\@shortname\fi}
127     \xdef\@depts{\@depts&\@dept}
128     \xdef\@@aff{\wa@ref{person}\@I{affiliation}}
129     \xdef\@shortname{\csname wa@institution@\@@aff @shortname\endcsname}
130     \xdef\@aff{\ifx\@shortname\@empty\wa@ref{institution}\@aff{name}\else\@shortname\fi}
131     \xdef\@affs{\@affs&\@aff}
132     \xdef\@urls{\@urls&\wa@ref{person}\@I{url}}
133 }%
134 \message{\theauthors authors: \@authors}%
135 }%
136 \begin{tabular}[t]{l*{\theauthors}{c}}
137   \@authors\\
138   \ifx\WAauthorblock@dept\@true\@depts\\fi
139   \ifx\WAauthorblock@aff\@true\@affs\\fi
140   \ifx\WAauthorblock@url\@true\@urls\\fi
141 \end{tabular}
142 }%
143 %   \begin{macrocode}
144 % \end{macro}
145 %
146 % \begin{macro}{\wapname}
147 %   \begin{macrocode}
148 \newcommand\wapname[1]{\wa@ref{person}{#1}{name}}

\wapname

149 \newcommand\waptname[1]{\wa@ref{person}{#1}{personaltitle} \wa@ref{person}{#1}{name}}

\wa@institution@logo

150 \newcommand\wa@institution@logo[2][]{%
151   \IfFileExists{\wa@ref{institution}{#2}{logo}}{%
152     \includegraphics{\wa@ref{institution}{#2}{logo}}%
153   }{%
154     \fbox{#2 logo}\message{still need logo for #2}%
155   }%
156 }%
157 \end{package}

```

## References

- [BM07] Dan Brickley and Libby Miller. *FOAF Vocabulary Specification 0.91*. Tech. rep. ILRT Bristol, Nov. 2007. URL: <http://xmlns.com/foaf/spec/20071002.html>.
- [Koh15] Michael Kohlhase. *metakeys.sty: A generic framework for extensible Metadata in L<sup>A</sup>T<sub>E</sub>X*. Tech. rep. Comprehensive T<sub>E</sub>X Archive Network (CTAN), 2015. URL: <http://www.ctan.org/tex-archive/macros/latex/contrib/stex/metakeys/metakeys.pdf>.
- [Pat] Oren Patashnik. *bibT<sub>E</sub>Xing*. URL: <http://www.ctan.org/get/biblio/bibtex/contrib/doc/btxdoc.pdf> (visited on 12/14/2009).



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