import-citation-cff: Import CFF metadata into LaTeX

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Abstract

Modern research software and datasets often include a CFF (Citation File Format) file to provide metadata for proper citation. When you write the manuscript that is to be cited, you need to ensure that the manuscript and the CFF file have consistent metadata. import-citation-cff helps with this process by reading the metadata from the CFF file and incorporating it into the LaTeX document.

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1 Introduction

Software is a product of research and should be cited like one [1]. The Citation File Format (CFF) [2] makes this practical by keeping a YAML-format file with `cff` extension, typically named `CITATION.cff`, in the software repository. The CFF file holds the metadata needed to cite the software which can be read by both people and programs. This practice allows automated tools to easily discover and use the citation metadata.

The CFF file and the cited manuscript are often kept and developed together in a single repository, the latter usually written in LaTeX. Developers need to keep duplicate metadata in sync between the CFF file and the manuscript, which can be tedious and prone to errors. This complication is even more pronounced when the software and the manuscript are developed in parallel, the former metadata being kept in the top level of the CFF file while the latter metadata being kept in the subsection of the CFF file such as `preferred-citation`.

import-citation-cff relieves this complication by keeping the CFF file as the single source of metadata and importing it into the LaTeX document. The package imports the CFF file by `\includecff` and provides three tools:

- LaTeX macros, e.g., `\cff`, to access the imported metadata. The list of authors and their affiliations are specially handled. See Section 6.2 for details.
- LaTeX macro `\cffsetauthors[style=…]` to typeset the list of authors in desired style. See Section 5.3 for the list of supported styles.

- Command line tool `cfflatexpand` to expand the CFF metadata into LaTeX code. Useful when your document needs to be built without the import-citation-cff package. See Section 6.3.

These tools ensure that the metadata are synced across the repository, allowing for easier maintenance and automation of the development process.

2 Installation

import-citation-cff is distributed on CTAN[1]. In TeX Live, install it with

```
tlmgr install import-citation-cff
```

Alternatively, you can install it manually from the source as described in Section 2.2.

2.1 Requirements

import-citation-cff parses the CFF file in Lua using the lt3luabridge and lua-tinyyaml packages. It needs either

- LuaLaTeX, which runs the Lua code directly, or
- pdfLaTeX with unrestricted shell escape (`--shell-escape`), which runs the Lua code with `texlua`.

It supports TeX Live 2025 and later.

2.2 Manual installation

A manual installation puts the files in the personal TeX tree, `TEXMFHOME`. Find its location with

```
kpsewhich -var-value TEXMFHOME
```

which is `~/texmf` by default in TeX Live. The distributed files should be put inside `TEXMFHOME` as follows:

```
tex/latex/import-citation-cff/
  import-citation-cff.sty
  cfflatex.lua
  cfflatex-data.lua
  cfflatex-style-*.def
  cfflatexpand.lua
  cfflatexpand-authors.lua
scripts/import-citation-cff/
  cfflatexpand
doc/latex/import-citation-cff/
  import-citation-cff.pdf
doc/man/man1/
  cfflatexpand.1
```

which can be achieved through one of the following methods.

[1] https://ctan.org/pkg/import-citation-cff

2.2.1 From a source checkout

In a checkout of the repository, `l3build` installs the same files into the personal tree:

```
l3build install --full
```

The `--full` option also typesets this manual and installs it with the other documentation and the man page of the command. Without the option, only the package and the command are installed. This installation links the `cfflatexpand` command into the directory specified by the environment variable `CFFLATEXPAND_BINDIR`, which defaults to `~/.local/bin`. With `--full`, it also links the man page into `share/man/man1` beside that directory, by default `~/.local/share/man/man1`, where `man` finds it when the directory of the command is in `PATH`. On Windows, the link is a batch file `cfflatexpand.cmd` that runs the command with `texlua`, the directory defaults to `%USERPROFILE%\.local\bin`, and the man page is not linked.

2.2.2 From a release archive

If you cannot use `l3build` in your environment, you can manually extract `import-citation-cff.tds.zip` into `TEXMFHOME`. Download the archive from release assets[2] and run:

```
unzip import-citation-cff.tds.zip -d "$(kpsewhich -var-value TEXMFHOME)"
```

However, this installation does not link the `cfflatexpand` command and you need to link it manually as described in Section 2.3. You also need to manually remove the files when uninstalling, as described in Section 2.5.

2.3 Installing the command

After extracting a release archive following Section 2.2.2, link the command yourself:

```
dir="$(kpsewhich -var-value TEXMFHOME)/scripts/import-citation-cff"
ln -s "$dir/cfflatexpand" ~/.local/bin/cfflatexpand
```

The man page can be linked likewise for `man cfflatexpand`:

```
page="$(kpsewhich -var-value TEXMFHOME)/doc/man/man1/cfflatexpand.1"
mkdir -p ~/.local/share/man/man1
ln -s "$page" ~/.local/share/man/man1/cfflatexpand.1
```

On Windows, write a batch file `cfflatexpand.cmd` instead, with the path of the command in your `TEXMFHOME`:

```
@echo off
texlua "C:\Users\me\texmf\scripts\import-citation-cff\cfflatexpand" %*
exit /b %errorlevel%
```

These links need to be removed manually when uninstalling the command.

[2] https://github.com/JSS95/cfflatex/releases

2.4 Checking the installation

The following commands print the location of the package and the version of the command:

```
kpsewhich import-citation-cff.sty
cfflatexpand --version
```

2.5 Uninstalling

If you used `tlmgr` to install the package, you can uninstall it with

```
tlmgr uninstall import-citation-cff
```

And if you used `l3build` to install the package, you can uninstall it with

```
l3build uninstall
```

If you set the environment variable `CFFLATEXPAND_BINDIR` when installing with `l3build`, you should also set the same variable when removing the links. If you manually extracted a release archive into `TEXMFHOME`, uninstalling should be done manually.

3 Tutorial

This manuscript itself is an example of using import-citation-cff. Its `CITATION.cff` is

```
cff-version: 1.2.0
message: If you use import-citation-cff, please cite it using these metadata.
type: software
title: "import-citation-cff: Import CFF metadata into LaTeX"
abstract: >-
  Modern research software and datasets often include a CFF (Citation
  File Format) file to provide metadata for proper citation. When you
  write the manuscript that is to be cited, you need to ensure that the
  manuscript and the CFF file have consistent metadata.
  import-citation-cff helps with this process by reading the metadata
  from the CFF file and incorporating it into the LaTeX document.
authors:
  - family-names: Song
    given-names: Jisoo
    affiliation: >-
      Institute of Chemical Process,
      Seoul National University,
      Republic of Korea;
      Department of Chemical and Biological Engineering,
      Seoul National University,
      Republic of Korea
    email: "jeesoo9595@snu.ac.kr"
contact:
  - family-names: Song
    given-names: Jisoo
    email: "jeesoo9595@snu.ac.kr"
```

```
repository-code: https://github.com/JSS95/cfflatex
license: MIT
keywords:
  - LaTeX
  - Citation File Format
  - metadata
```

The LaTeX manuscript then imports and accesses the metadata by

```
\documentclass{l3doc}
\usepackage{import-citation-cff}
\includecff{CITATION.cff}
\title{\cff{title}}
\author{\cffauthor{1}{given-names}~\cffauthor{1}{family-names}}

\begin{document}
\maketitle
\begin{abstract}
  \cff{abstract}
\end{abstract}
\end{document}
```

3.1 Specifying the source level

By default, `\includecff` reads the top level of the CFF file. The `source=`⟨*key*⟩ option selects another citation under the top-level ⟨*key*⟩, such as `preferred-citation`. Any other top-level key is read in the same way. However, note that the CFF standard schema[3] defines `preferred-citation` as the only such key and allows no others.

3.2 Reading CFF fields

Once the CFF file is included, `\cff` reads any value of the citation by its path. The keys and the indices, counting from 1, that lead to it, are separated by slashes. `\cffcount` gives the length of a list. With the `CITATION.cff` of this manual,

`\cff{authors/1/family-names}`	Song
`\cff{keywords/2}`	Citation File Format
`\cffcount{keywords}`	3

The path is expanded first, so `\cff{authors/\cffauthorindex/email}` reads the email address of the current author in `\cffforeachauthor`.

3.3 Iterating over authors

`\cffforeachauthor` runs its argument once for each author of the citation, and `\cffauthorindex` gives the index of the current author. A document can thus list the authors without knowing how many there are. For example, the following prints the list of authors separated by “and” between their names:

[3] https://github.com/citation-file-format/citation-file-format/blob/main/schema-guide.md

```
\cffforeachauthor{%
  \ifnum\cffauthorindex>1 and \fi
  \cffauthor{\cffauthorindex}{given-names}~%
  \cffauthor{\cffauthorindex}{family-names}
}
```

3.4 Multiple affiliations

CFF gives each person one `affiliation` which is a nonempty string, and does not natively support multiple affiliations per author. import-citation-cff allows multiple affiliations per author by separating them with semicolons in the `affiliation` field. Affiliations of each author can be accessed individually by `\cffauthoraffiliation` and related commands. For example,

```
\cffauthoraffiliation{1}{1} % first affiliation of the first author
\cffauthoraffiliation{1}{2} % second affiliation of the first author
```

3.5 Author style

`\cffsetauthors` declares the authors of the citation for the title page. Its typesetting style can be customized using the `style` option. Section 5.3 lists the styles that come with import-citation-cff, and Section 4.2 explains how to write others. The other keys of `\cffsetauthors` change how a name is made, how the authors and the affiliations are declared, and the marks and the footnotes (see Section 6.2).

3.6 Expanding metadata

The command line tool `cfflatexpand` replaces metadata commands with their values and removes the import-citation-cff package load and `\includecff`. The resulting source can be compiled without import-citation-cff or the CFF file. This tool is useful for preparing a submission to a journal or conference that accepts only plain LaTeX files.

With the command installed as in Section 2, run either

```
cfflatexpand manuscript.tex > submission.tex
cfflatexpand manuscript.tex --output submission.tex
cfflatexpand manuscript.tex -o submission.tex
```

Section 6.3 lists the options of the command.

`cfflatexpand` also converts `\cffsetauthors` with the keys of Section 3.5, the built-in styles of Section 5.3, and author style plugins that follow the rules of Section 4.2.5. The `style` option of the package is its default style, as when compiling. The output still needs the class or package that provides its declarations.

Only the commands of import-citation-cff change. Every other command, such as `\input` and `\include`, are copied as they are. If you want to expand metadata in included files, first run latexpand on them:

```
latexpand manuscript.tex > manuscript-flat.tex
cfflatexpand manuscript-flat.tex --output submission.tex
```

4 How-to guides

This section provides practical guidance on using the import-citation-cff package and its commands effectively.

4.1 Checking the title page

By default, import-citation-cff checks that all required metadata fields are present and correctly formatted in the LaTeX document. What the check looks for, and where, depends on the author style specified by the `style` option of the package or the `style` key of `\cffsetauthors`. Default setting is to check that `\maketitle` typesets the metadata of the citation by using `\cff{title}` in the `\title` command and using either `\cffauthor` or `\cff` with a path such as `authors/1/family-names` in the `\author` command. A style for a journal template that typesets its title block without `\maketitle` can check other fields in that block (Section 4.2.4).

The `style` option of the package names the author style of the document, and also makes it the default style of `\cffsetauthors`:

```
\usepackage[style=authblk]{import-citation-cff}
```

The check uses this style even if `\cffsetauthors` selects another one. Without the option, the check uses the style of the last `\cffsetauthors` in the preamble, or else `standard`. Section 5.3 tells what each built-in style checks. When the check does not fit the document, load the package with the `check=false` option:

```
\usepackage[check=false]{import-citation-cff}
```

4.2 Author style plugins

An author style plugin is a definition file that registers a style for the `style` key of `\cffsetauthors` and the `style` option of the package. The style declares the authors, and also tells the check of Section 4.1 what to look for. The built-in styles of Section 5.3 are plugins written with the same interface.

4.2.1 Writing a definition file

A style named ⟨*name*⟩ lives in the file `cfflatex-style-`⟨*name*⟩`.def`, beside the manuscript or in a TeX tree, and registers itself with `\cffdeclareauthorstyle`. For example, the following style uses the `\author` and `\affil` commands of authblk with numeric affiliation marks:

```
% cfflatex-style-authblk-arabic.def
\cffdeclareauthorstyle{authblk-arabic}{
  requires = {authblk},
  affiliation-mark = arabic,
  author = {\author[{{}#1}]{#2}},
  affiliation = {\affil[#1]{#2}},
}
```

The manuscript selects it by name:

```
\usepackage{authblk}
\usepackage{import-citation-cff}
\includecff{CITATION.cff}
\cffsetauthors[style=authblk-arabic]
```

`\cffsetauthors`, or the `style` option of the package at `\begin{document}`, reads the definition file the first time the style is used, and the file must register the requested name. Names are case-sensitive, start with an ASCII letter or digit, and contain only ASCII letters, digits, hyphens, and underscores. Registration is global, and registering a name twice is an error.

4.2.2 Plugin keys

A style definition accepts the keys of `\cffsetauthors`, except `style`, as its defaults. Each call of `\cffsetauthors` resets every key, then applies the style definition, then the user's options. User options therefore override the style even when they appear before `style` in the option list.

The following keys are only useful in a style definition.

`requires` a comma-separated list of packages that must already be loaded. The plugin does not load them.

`validate` code that checks the document, such as the class or the fields the style needs.

`begin`, `end` code run before and after the declarations. For example, the `standard` style collects the names and declares one `\author` in its `end` code.

`prepare-author` code run before each author is declared, with `#1` equal to the index of the author. Use the public accessors of Section 6.2 to inspect that author.

`author-code`, `affiliation-code` code run in place of the `author` and `affiliation` templates, with the same arguments.

`render` code that replaces the default order of declarations. An empty value selects the default.

`check-fields`, `check-region` what the check looks for (Section 4.2.4). These keys are only allowed in a style definition.

The `author` and `affiliation` templates are declarations: `\cffsetauthors` passes each of them to `\cffemit` itself. The `author-code` and `affiliation-code` keys are code instead: they can prepare or accumulate, and must pass each final declaration to `\cffemit`. An empty affiliation template or code gives no affiliations and no affiliation marks.

4.2.3 Rendering order

`\cffsetauthors` runs a style in this order:

1. the `requires` check and the `validate` code;
2. the collection of the names for `\cffauthornames`;
3. the `begin` code;

4. the renderer, which by default calls `\cffrenderauthor` for every author and then `\cffrenderaffiliation` for every distinct affiliation;

5. the `end` code.

`\cffauthornames` is available from the `begin` code on, and does not depend on the order of the renderer. `\cffrenderauthor` runs the `prepare-author` code before the author template. A `render` value can use the loops of Section 6.2 to change the order. For example, this renderer declares each author followed by the affiliations of that author, repeating shared affiliations:

```
render = {
  \cfffforeachauthor{
    \cffrenderauthor{\cffauthorindex}
    \cfffforeachauthoraffiliation{\cffauthorindex}{
      \cffrenderaffiliation{\cffconvertaffiliationindex
        {\cffauthorindex}{\cffauthoraffiliationindex}}}
  }
},
```

4.2.4 Checking the title page

When a style is the author style of the document (Section 4.1), the check reads two keys of its definition.

`check-fields` the fields that the title page must use, given as paths of `\cff`, such as `title` and `abstract`, where `authors` stands for every author. The default is `{title, authors}`. A field that the citation does not have is not checked.

`check-region` the regions of the document where the fields must be used, one or more of

- **`maketitle`** `\maketitle`, where `\title` must use the title and `\author` every author. This is the default.
- **`hooks={`**⟨*begin*⟩**`}{`**⟨*end*⟩**`}`** from the LaTeX hook ⟨***begin***⟩ to the hook ⟨***end***⟩.
- **`document`** the whole document, as a fallback.

The first region that ends is checked, and no region is checked after it. If no other region has ended, `document` is checked at the end of the document, and the log says so. A use counts when `\cff`, `\cffauthor`, or `\cffauthornames` is typeset inside the region, also through macros of the document.

For example, the template of the Royal Society of Chemistry typesets its title block in a `@twocolumnfalse` environment. Every environment has hooks, so the `rsc` style (Section 5.3.3) checks this block with

```
check-fields = {title, authors, abstract},
check-region = {
  hooks = {env/@twocolumnfalse/begin}{env/@twocolumnfalse/end},
  document,
},
```

The check does not run during export, so these keys do not affect `cfflatexpand`.

4.2.5 Supporting `cfflatexpand`

`cfflatexpand` converts `\cffsetauthors` by running the style, not by reading it. It

1. starts a separate LuaLaTeX run of an empty `article` document that loads import-citation-cff and the metadata, but none of the manuscript's preamble;
2. calls `\cffsetauthors` there with the options of the manuscript, and the `style` option of the package as the default, loading the definition file from the directory of the manuscript or the TeX search path, and skipping `requires` and `validate`;
3. records the argument of every `\cffemit` as it is, without executing it;
4. replaces `\cffsetauthors` in the output with the recorded declarations, in which the metadata commands become their values and the footnotes of contacts and notes use a self-contained definition.

A style therefore works with `cfflatexpand` if it follows these rules.

- Register the style in a definition file. `\cffdeclareauthorstyle` in the manuscript works when compiling, but `cfflatexpand` reports an error.
- Pass every final declaration to `\cffemit`. A declaration that the code executes directly, such as `\author` in `author-code`, appears when compiling but is missing from the output.
- Make the preparation code self-contained. The `begin`, `end`, `prepare-author`, `author-code`, `affiliation-code`, and `render` code also runs in the isolated document, where the class and the packages of the manuscript, including those in `requires`, are not loaded.
- Use only commands of the final class and its packages in the declarations. The output is compiled without import-citation-cff and without the definition file, so helper commands of the style are undefined there. A declaration can define a command for the document with `\newcommand`, as the `rsc` style does.
- Keep the marks and the names unexpanded. They contain the footnotes and the metadata commands, which must run when the title page is typeset. To accumulate declarations, append the arguments with `\tl_put_right:Nn` and insert the result with `\exp_not:V`, as `cfflatex-style-standard.def` does, rather than expanding the whole declaration with `\edef`.

5 Explanation

This section explains the design details of `import-citation-cff`.

5.1 Text in the metadata

Values are inserted as text. The TeX special characters `\ { } % # $ & _ ~ ^` are printed as themselves, so LaTeX markup in the CFF file is not interpreted. Line breaks inside a value become spaces, so the paragraphs of a multi-paragraph abstract run together, and spaces at either end are dropped. Non-ASCII characters are kept. With pdfLaTeX, use a font encoding that has them, such as `T1`.

5.2 Recording the CFF file

`\includecff` records the CFF file as an input in the `.fls` file that the `-recorder` option writes. Build tools that read it, such as latexmk and the LaTeX Workshop extension of Visual Studio Code, therefore rebuild the document when the CFF file changes.

5.3 Built-in author styles

import-citation-cff comes with the following author styles. A document selects one with the `style` key of `\cffsetauthors` or the `style` option of the package (Sections 3.5 and 4.1). The other keys of `\cffsetauthors` override the defaults of the style.

5.3.1 `standard`

The default style collects the authors in one `\author` of the standard classes, separated by `\and`, without the affiliations. The footnotes of the contacts and the notes are typeset by `\maketitle`, like those of `\thanks`. The check looks for the title in `\title` and every author in `\author`.

5.3.2 `authblk`

The style declares each author with `\author` and each distinct affiliation with `\affil` of the authblk package, which lists the affiliations below the authors. The marks of an author are the letters of their affiliations and the footnotes of the contacts and the notes. Load authblk before `\cffsetauthors`. The check is that of `standard` (Section 5.3.1). The title page of this manual is made by

```
\usepackage{authblk}
\includecff{CITATION.cff}
\title{\cff{title}}
\cffsetauthors[style=authblk]
\hypersetup{pdfauthor={\cffauthornames}}
```

5.3.3 `rsc`

The style is for the article template of the Royal Society of Chemistry [3], which typesets its title block by hand in a `@twocolumnfalse` environment, without `\maketitle`. It defines two commands for the template: `\rscauthors`, the line of the authors, and `\rscfootnotes`, the footnotes that the template lists after the block.

```
\usepackage[style=rsc]{import-citation-cff}
\includecff{CITATION.cff}
\cffsetauthors[
  note = {1}{These authors contributed equally to this work.},
  note = {2}{These authors contributed equally to this work.},
]
...
 & \noindent\large{\rscauthors} \\
...
%%%FOOTNOTES%%%
\rscfootnotes
```

The authors are separated by commas, with "and" before the last. Their marks are ∗ for a contact, the letters of the affiliations, and ‡, §, and ¶ for the notes. The template keeps † for the electronic supplementary information. Authors with the same note share its symbol, and with one affiliation, no letter is needed. `\rscfootnotes` lists the contacts, then the affiliations, then the notes, each as `\footnotetext{\textit{$^{`⟨*mark*⟩`}$~`⟨*text*⟩`}}`. The default contact template is `Corresponding author. E-mail: #1{email}`.

The check looks for the title, every author, and the abstract in the `@twocolumnfalse` block, for example through `\rscauthors`, and in the whole document if there is no such block.

6 Reference

6.1 Package options

The package has two options (Section 4.1).

`check=`⟨*boolean*⟩ checks the title page. The default is `true`.

`style=`⟨*name*⟩ sets the author style of the document, which the check uses and `\cffsetauthors` selects by default.

6.2 LaTeX Commands

`\includecff` `\includecff [`⟨*options*⟩`] {`⟨*file*⟩`}`

Reads the citation metadata in ⟨*file*⟩. The command can be used in the preamble or in the document, but only once: a document reads one CFF file. `\title` and similar commands keep `\cff` and expand it later, when the title page is typeset, so reading another file would change the values given before it. A second call is an error and is ignored.

`source=`⟨*key*⟩ reads the mapping under the top-level ⟨*key*⟩ instead. Without this option, the citation is the top level of the file.

`\cff` ⋆ `\cff {`⟨*path*⟩`}`
`\cffcount` ⋆ `\cffcount {`⟨*path*⟩`}`

Expand to the value at ⟨*path*⟩ in the citation, and to the length of the list at ⟨*path*⟩. ⟨*path*⟩ lists the keys and the indices, counting from 1, that lead to the value, separated by slashes, such as `authors/1/family-names`. A missing path gives nothing for `\cff` and 0 for `\cffcount`. A list or a mapping for `\cff`, and a value or a mapping for `\cffcount`, is an error. `\cff{authors/`⟨*index*⟩`/`⟨*field*⟩`}` is `\cffauthor{`⟨*index*⟩`}{`⟨*field*⟩`}` without the check of the index. Section 3.2 shows examples.

\cffsetauthors `\cffsetauthors [⟨keys⟩]`
\cffauthornames `\cffauthornames`

`\cffsetauthors` declares the authors of the citation for `\maketitle`, as Section 3.5 describes. Call this function once after `\includecff`. `\cffauthornames` expands to the names of the authors, separated by commas and made by the `name` template. The ⟨*keys*⟩ are

`style=`⟨*name*⟩ selects a registered author style, loading its definition file if needed. The default is the `style` option of the package, or else `standard`. Section 5.3 lists the built-in styles, and Section 4.2 explains how to write others.

`name=`⟨*template*⟩ makes the name of an author. `#1` takes a field of the author. The default is `#1{given-names}~#1{family-names}`.

`affiliation-mark=`⟨*style*⟩ numbers the affiliations with `alph` (the default), `Alph`, `arabic`, `roman`, or `Roman`.

`separator=`⟨*text*⟩ separates the marks of an author. The default is a comma.

`contact=`⟨*template*⟩ is the footnote of an author who is a contact. `#1` takes a field of the contact. The default is `E-mail: #1{email}`, and an empty template gives no footnotes.

`note={`⟨*index*⟩**`}{`**⟨*text*⟩**`}`** adds a footnote with ⟨*text*⟩ to the ⟨*index*⟩-th author, such as a current affiliation. ⟨*index*⟩ is an integer expression, such as `\cffcount{authors}` for the last author. The key can be given several times. The footnotes follow those of the contacts, in order.

`author=`⟨*template*⟩ declares an author, with the marks `#1` and the name `#2`.

`affiliation=`⟨*template*⟩ declares an affiliation, with the mark `#1` and the name `#2`. An empty template gives no affiliations.

\cffdeclareauthorstyle `\cffdeclareauthorstyle {⟨name⟩} {⟨keys⟩}`

Registers an author style globally. See Section 4.2 for naming rules, definition files, templates, lifecycle hooks, and the keys of the check.

\cffemit `\cffemit {⟨declaration⟩}`
\cffrenderauthor `\cffrenderauthor {⟨index⟩}`
\cffrenderaffiliation `\cffrenderaffiliation {⟨index⟩}`

Plugin code sends a final declaration to `\cffemit`, which executes it during normal compilation and collects it during export. In a custom renderer, `\cffrenderauthor` and `\cffrenderaffiliation` apply the current templates to an author or a distinct affiliation. Their indices are integer expressions and use the same numbering as the public field accessors.

\cffauthor ⋆ `\cffauthor {⟨index⟩} {⟨field⟩}`

Expands to the ⟨*field*⟩ of the ⟨*index*⟩-th author, counting from 1, and reports an error if there is no such author. ⟨*field*⟩ is a key of the author entry in the CFF file, such as `given-names` or `family-names`. A field that the author does not have expands to nothing. `\cffcount{authors}` is the number of authors.

`\cffforeachauthor` `\cffforeachauthor {⟨code⟩}`
`\cffauthorindex` `\cffauthorindex`

`\cffforeachauthor` runs ⟨*code*⟩ once for each author of the citation, in order, and `\cffauthorindex` expands to the index of the current author, counting from 1.

`\cffauthoraffiliationcount` ⋆ `\cffauthoraffiliationcount {⟨index⟩}`
`\cffauthoraffiliation` ⋆ `\cffauthoraffiliation {⟨index⟩} {⟨k⟩}`
`\cffconvertaffiliationindex` ⋆ `\cffconvertaffiliationindex {⟨index⟩} {⟨k⟩}`

Expand to the number of affiliations of the ⟨*index*⟩-th author, which is 0 if the author has none, to the ⟨*k*⟩-th of them, and to its number among the distinct affiliations of the citation, which `\cffaffiliation` and `\cffforeachaffiliation` use.

`\cffforeachauthoraffiliation` `\cffforeachauthoraffiliation {⟨index⟩} {⟨code⟩}`
`\cffauthoraffiliationindex` `\cffauthoraffiliationindex`

`\cffforeachauthoraffiliation` runs ⟨*code*⟩ once for each affiliation of the ⟨*index*⟩-th author, in order, and `\cffauthoraffiliationindex` expands to the index of the current affiliation among those of the author, counting from 1.

`\cffaffiliationcount` ⋆ `\cffaffiliationcount`
`\cffaffiliation` ⋆ `\cffaffiliation {⟨n⟩}`

Expand to the number of distinct affiliations of the citation, and to the ⟨*n*⟩-th of them.

`\cffforeachaffiliation` `\cffforeachaffiliation {⟨code⟩}`
`\cffaffiliationindex` `\cffaffiliationindex`

`\cffforeachaffiliation` runs ⟨*code*⟩ once for each distinct affiliation of the citation, in order, and `\cffaffiliationindex` expands to the number of the current affiliation.

`\cffcontact` ⋆ `\cffcontact {⟨index⟩} {⟨field⟩}`

Expands to the ⟨*field*⟩ of the ⟨*index*⟩-th contact, counting from 1. As for `\cffauthor`, ⟨*field*⟩ is a key of the contact entry, such as `email`, and a field that the contact does not have expands to nothing. `\cffcount{contact}` is the number of contacts, which is 0 if there are none.

`\cffforeachcontact` `\cffforeachcontact {⟨code⟩}`
`\cffcontactindex` `\cffcontactindex`

`\cffforeachcontact` runs ⟨*code*⟩ once for each contact of the citation, in order, and `\cffcontactindex` expands to the index of the current contact, counting from 1.

6.3 Command line tool

`cfflatexpand` expands the metadata of a manuscript, as Section 3.6 describes. On Unix, its man page, shown by `man cfflatexpand`, describes the command and its options. The help that it prints with the `--help` option is:

```
Usage: cfflatexpand [OPTIONS] manuscript.tex

Expand CFF content in a LaTeX manuscript so that it can be built without
```

```
import-citation-cff.

  -o, --output FILE  Write to FILE instead of stdout; '-' also means stdout
  -h, --help         Show this help
      --version      Show the version shared with import-citation-cff
      --             End option parsing

Author declarations support built-in and file-based styles and custom
templates. Commands that import-citation-cff does not define are copied
unchanged, and metadata commands in verbatim text are not expanded.
\input and \include are unchanged. To expand included files, first
flatten with latexpand.

Diagnostics go to stderr. Unsupported or invalid input produces no TeX
output.
```

6.4 Errors and warnings

The following errors stop compilation.

CFF file ‘⟨*file*⟩’ was not found. ⟨*file*⟩ is not in the current directory or the TEX search path.

pdfLaTeX requires unrestricted shell escape ... Use LuaLATEX, or run pdfLATEX with `--shell-escape`.

Cannot read CFF file: ⟨*reason*⟩. The file cannot be used. For example, it has no top-level key given by `source`, or that key does not hold a mapping, or the selected citation has incorrect structure, or an affiliation breaks the rules of Section 3.4.

Install cfflatex.lua alongside import-citation-cff.sty. import-citation-cff is incompletely installed.

The following errors are reported while using the commands of Section 6.2.

Call `\includecff` first. No CFF file has been read yet.

`\includecff` can be used only once. A document reads one CFF file (Section 6.2). The second call is ignored.

style=⟨*name*⟩ needs the ⟨*package*⟩ package. Load ⟨*package*⟩, which the `requires` key of the style lists, before `\cffsetauthors`.

Invalid author style name ‘⟨*name*⟩’. The name breaks the rules of Section 4.2.

Author style ‘⟨*name*⟩’ is not registered ... The definition file of the style was not found.

Author style ‘⟨*name*⟩’ was not registered by its file. The definition file registers another name.

Author style ‘⟨*name*⟩’ is already registered. Each name can be registered once.

The key ‘⟨*key*⟩’ is only allowed in an author style definition. The check keys are given to `\cffsetauthors`.

Invalid check region ‘⟨*region*⟩’. The `check-region` key of the author style of the document lists an unknown region, or hooks without exactly two arguments.

Author index ‘⟨*index*⟩’ is out of range. The citation has fewer than ⟨*index*⟩ authors.

Affiliation ‘⟨*k*⟩’ is out of range. The author or the citation has fewer than ⟨*k*⟩ affiliations.

Contact ‘⟨*index*⟩’ is out of range. The citation has fewer than ⟨*index*⟩ contacts.

Not inside `\cfforeachauthor`. `\cffauthorindex` is used outside the loop.

Not inside `\cfforeachcontact`. `\cffcontactindex` is used outside the loop.

Not a value: ⟨*path*⟩. `\cff` is given the path of a list or a mapping.

Not a list: ⟨*path*⟩. `\cffcount` is given the path of a value or a mapping.

Not inside an affiliation loop. `\cffaffiliationindex` is used outside the loops over affiliations.

Not in an author affiliation loop. The index of an affiliation of an author is used outside the loop over the affiliations of the author.

The following warnings are issued by the check of Section 4.1, after the region it checks, such as `\maketitle`.

`\title` does not use the title of the citation. The title page does not show the title of the citation.

`\author` does not use author(s) ⟨*indices*⟩ of the citation. The title page does not show these authors.

The title page does not use ‘⟨*field*⟩’ of the citation. The region does not show this field.

The title page does not use author(s) ... The region does not show these authors.

7 License

import-citation-cff is distributed under the MIT License. Its source code is at https://github.com/JSS95/cfflatex, where bugs can be reported.

References

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