


# The linkTold package

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This document corresponds to linkTold v0.2, dated 2018/05/18.

## 1 Implementation

```
1 % TODO: Read more of clsguide.pdf to find more things to add.
2 % TODO: Concerning NeedsTeXFormat: Find out which format we actually require
3
4 % TODO: Should these packages be included here or included by the user?
5 %     Now, the user can not pass options to these packages.
6
7 \RequirePackage{kvoptions}
8 \SetupKeyvalOptions{
9     family = Lnk,
10    prefix = Lnk@
11 }
12 % Can be defined if we should never try to detect luatex
13 \DeclareBoolOption{nolua}
14 % Can be defined to have footnote entries generated for linkToOrcidNameIcon
15 % which also print the id.
16 \DeclareBoolOption{orcidIdInFootnote}
17 \ProcessKeyvalOptions{Lnk}
18
19 \RequirePackage{tikz}
20 % \RequirePackage{xstring}
21 \RequirePackage{stringstrings}
22 \RequirePackage{hyperref}
23
24 % Try to detect Lua if we are supposed to try
25 \newif\ifLinkToIdUseLua
26 \ifLnk@nolua
27 \LinkToIdUseLuafalse
28 \else
29 \RequirePackage{ifluatex}
30 \ifluatex
31 \LinkToIdUseLuatrue
32 \else
```

```

33 \LinkToIdUseLuafalse
34 \fi
35 \fi
36
37 % if we are using lua, use the luacode environment
38 \ifLinkToIdUseLua
39 \RequirePackage{luacode}
40 \fi
41

```

`\linkToIdFootnoteNoNumber` Creates a footnote entry with no number. Taken from here:  
[https://en.wikibooks.org/wiki/LaTeX/Footnotes\\_and\\_Margin\\_Notes](https://en.wikibooks.org/wiki/LaTeX/Footnotes_and_Margin_Notes)  
Usage:  
`\linkToIdFootnoteNoNumber{<Footnote text.>}`  
Example: `\linkToIdFootnoteNoNumber{Some footnote text.}`  
Output: "Some footnote text." as a footnote without a number.  
42 \def\linkToIdFootnoteNoNumber{\xdef\@thefnmark{}\@footnotetext}

## 1.1 ORCID specifics

### 1.1.1 Implementation

Next we set up the icon rendering and the margins as requested by ORCID. The ORCID icon was taken from ORCID's Trademark and ID display guidelines page and its use is subject to those conditions: <https://orcid.org/trademark-and-id-display-guidelines>

```

43 % The conversion of the ORCID icon from SVG to TIKZ is documented in the file preparation/orcid
44 % The ORCID icon was taken from ORCID's Trademark and ID display guidelines page and its use is
45 % to those conditions: https://orcid.org/trademark-and-id-display-guidelines
46 \newcommand{\linkToOrcidIcon}{\begin{tikzpicture}[x=1.6ex,y=1.6ex] % Found by experiment that 1
47 % #A6CE39 = {166/256,206/256,57/256} = {0.651, 0.808, 0.224}\
48 \definecolor{orcidgreen}{rgb}{0.651, 0.808, 0.224}\
49 % the image has a size of 2.56em. We need to scale it such that 2.56em -> 1em. Conversion factor
50 \begin{scope}[yscale=0.39,xscale=0.39]\
51 % The y axes is mirrored since the SVG coordinates are in opposite direction.\
52 % The drawing is then still downwards from 0, therefore we move it up to have its bottom at 0\
53 \begin{scope}[shift={(0,2.56)},yscale=-1,xscale=1]\
54 % this is the large surrounding circle\
55 \fill [orcidgreen] (1.28,1.28) circle (1.28);\
56 % this is the base of the "i", can be drawn as a filled rectangle\
57 \fill [white] (0.863,1.862) rectangle (0.709,0.791);\
58 % this is the outer shape of the "D"\
59 \fill [white] (1.089,0.791) -- (1.505,0.791) .. controls (1.901,0.791) and (2.075,1.074) .. (2.
60 % this is the inner shape of the "D"\
61 \fill [orcidgreen] (1.243,1.724) -- (1.488,1.724) .. controls (1.837,1.724) and (1.917,1.459) .
62 % this is the dot of the "i"\
63 \fill [white] (0.786,0.568) circle (0.101);\
64 \end{scope}\
65 \end{scope}\

```

```

66 \end{tikzpicture}}
67 \newcommand{\linkToOrcidIconMarginLeft}{\hspace{0.25em}\linkToOrcidIcon}
68 \newcommand{\linkToOrcidIconMarginRight}{\hspace{0.25em}\linkToOrcidIcon}
69 \newcommand{\linkToOrcidIconMarginBoth}{\hspace{0.25em}\linkToOrcidIcon\hspace{0.25em}}

70 \ifLinkToIdUseLua
71
72 \begin{luacode*}
73
74 linkToId = {};
75
76 -- Checks the checksum of an ORCID id string (without the URL)
77 linkToId.checkORCIDChecksum = function(orcidIdString)
78     -- Method for verifying the checksum is described here:
79     -- https://support.orcid.org/knowledgebase/articles/116780-structure-
of-the-orcid-identifier
80     local o2=string.gsub(orcidIdString,"-","");
81     local code0=string.byte("0");
82     local total=0;
83     for i = 1,(string.len(o2)-1) do
84         local myC=string.sub(o2,i,i);
85         local myAsc=tonumber(string.byte(myC,1,1));
86         local myDigit=myAsc-code0;
87         total = (total + myDigit)*2;
88     end
89
90     -- Using the percent sign as a modulo operator does not work in directlua.
91     -- But we keep that here even though we now use the luacode* environment.
92     local remainder = math.fmod(total, 11);
93     local checkResult = math.fmod((12-remainder), 11);
94     local checkSumDigit = tostring(checkResult);
95     -- replace 10 by X:
96     if checkResult==10 then
97         checkSumDigit = "X";
98     end
99     local isValid = (checkSumDigit == string.sub(o2, 16, 16));
100
101     return isValid;
102 end
103
104 -- Check the structure and checksum of a full ORCID id containing the URL
105 linkToId.checkORCID = function(orcidStringWithURL)
106
107     local httpString="http://orcid.org/";
108     if (string.sub(orcidStringWithURL, 1, string.len(httpString))==httpString) then
109         return false, "Link to ORCID starts with http:// instead of https://"
110     end
111
112     local httpsString="https://orcid.org/";
113     if not (string.sub(orcidStringWithURL,1,string.len(httpsString))==httpsString) then

```

```

114         return false, "Does not start with https://orcid.org"
115     end
116
117     -- TODO: check for the xxxx-xxxx-xxxx-xxxX structure
118     --         Delayed because string.find needs a percent sign
119     local idOnly = string.sub(orcidStringWithURL, string.len(httpsString)+1);
120     if not (string.len(idOnly)==16+3) then
121         return false, "Does not have a valid length behind URL (should be 19 digits)"
122     end
123
124     local checksumOk = linkToId.checkORCIDChecksum(idOnly);
125     if not checksumOk then
126         return false, "Checksum does not match";
127     end
128
129     return true, "Ok.";
130 end
131
132 -- wrapper for checkORCID which returns 1 in case of error.
133 -- check for error can be done using latex's ifodd
134 linkToId.checkORCIDWrapperBool = function(orcidString)
135     local isValid, errorMessage = linkToId.checkORCID(orcidString);
136
137     if isValid then
138         tex.print(0);
139     else
140         tex.print(1);
141     end
142 end
143
144 -- wrapper for checkORCID which returns the error message
145 linkToId.checkORCIDWrapperMessage = function(orcidString)
146     local isValid, errorMessage = linkToId.checkORCID(orcidString);
147
148     if not isValid then
149         tex.print("Invalid ORCID: ");
150         tex.print(orcidString);
151         tex.print(errorMessage);
152     end
153 end
154
155 \end{luacode*}
156
157 % note: this command can not be used inside PDF-code, has to be used inside the tex part of \tex
158 \newcommand{\linkToIdCheckORCID}[1]{\ifodd\directlua{linkToId.checkORCIDWrapperBool("#1")}\Pac
159
160 \else %\ifodd\linkToIdNoLua
161
162 % note: this command can not be used inside PDF-code, has to be used inside the tex part of \tex
163 \newcommand{\linkToIdCheckORCID}[1]{\whereisword[q]{#1}{https://orcid.org/}\ifnum1=\theresult\er

```

164 \fi %\ifodd\linkToIdNoLua

### 1.1.2 Usage

The three macros defined below use the `texorpdfstring` macro internally the return something that `hyperref` can put into a PDF field. This is needed for LyX, for example, to be able to populate the PDF author fields automatically, even if these macros are used in the author fields in LyX.

`\linkToOrcidIconId` Creates a link consisting of a name and an icon. Usage:

`\linkToOrcidIconId{<orcid-id>}`

Example: `\linkToOrcidIconId{https://orcid.org/0000-0002-1825-0097}`

Output:  <https://orcid.org/0000-0002-1825-0097>


165 % TODO: Add an option to remove the margin on the left hand side.

166 \newcommand{\linkToOrcidIconId}[1]{\texorpdfstring{\linkToIdCheckORCID{#1}\href{#1}{\mbox{\link

`\linkToOrcidNameIconId` Creates a link consisting of a name, an icon and an ID. Usage:

`\linkToOrcidNameIconId{<name>}{<orcid-id>}`

Example: `\linkToOrcidNameIconId{Josiah Carberry}{https://orcid.org/0000-0002-1825-0097}`

Output: Josiah Carberry  <https://orcid.org/0000-0002-1825-0097>


167 % TODO: Add an option to have links only on the icon and the id and not also on the name.

168 \newcommand{\linkToOrcidNameIconId}[2]{\texorpdfstring{\linkToIdCheckORCID{#2}\href{#2}{\mbox{#1\

`\linkToOrcidNameIcon` Creates a link consisting of a name and an icon. Usage:

`\linkToOrcidNameIcon{<name>}{<orcid-id>}`

Example: `\linkToOrcidNameIcon{Josiah Carberry}{https://orcid.org/0000-0002-1825-0097}`

Output: Josiah Carberry 

169 % TODO: Add an option to have links only on the icon and not also on the name.

170 % TODO: Add an option to remove the margin on the right hand side.

171 \newcommand{\linkToOrcidNameIcon}[2]{\texorpdfstring{\linkToIdCheckORCID{#2}\href{#2}{\mbox{#1\

## Change History

v0.1		ORCID and options for
General: Initial version	1	footnotes. 1
v0.2		
General: Add checksum tests for		