NSF Collaboration List from PubMed

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# R session

library('easyPubMed')

## Loading required package: XML

library('plyr')  
sessionInfo()

## R version 3.3.3 (2017-03-06)  
## Platform: x86\_64-apple-darwin13.4.0 (64-bit)  
## Running under: OS X El Capitan 10.11.5  
##   
## locale:  
## [1] en\_US.UTF-8/en\_US.UTF-8/en\_US.UTF-8/C/en\_US.UTF-8/en\_US.UTF-8  
##   
## attached base packages:  
## [1] stats graphics grDevices utils datasets methods base   
##   
## other attached packages:  
## [1] plyr\_1.8.4 easyPubMed\_2.3 XML\_3.98-1.7   
##   
## loaded via a namespace (and not attached):  
## [1] backports\_1.1.0 magrittr\_1.5 rprojroot\_1.2 tools\_3.3.3   
## [5] htmltools\_0.3.6 yaml\_2.1.14 Rcpp\_0.12.11 stringi\_1.1.5   
## [9] rmarkdown\_1.5 knitr\_1.16 stringr\_1.2.0 digest\_0.6.12   
## [13] evaluate\_0.10

# Set author for query

This code sets the author from which to query. By default it uses my name, Elana Fertig, in the variable author. Please format your name as "LAST NAME" "FIRST INITIAL" to match pubmed query structure.

authorFilter contains the full names as "LAST NAME" "INITALS" to filter out additional authors with other initials. This may require further customization depending on your name.

author <- 'Fertig E'  
authorFilter <- 'Fertig ET'

# Establish date range

NSF requires a "list of all persons alphabetically who are current or past collaborators on a project, book, article, rpt, abstract or paper for past 48 mos." By default, we assume that the 48 month period starts on the date of running this software. This can be changed to a different date by storing the desired date in the currentDate variable as a Date object.

currentDate <- Sys.Date()  
queryDate <- seq(Sys.Date(), length = 2, by = "-48 months")[2]

# Query pubmed

pmquery <- sapply(articles\_to\_list(fetch\_pubmed\_data(get\_pubmed\_ids(paste0(author,'[Author]')))),article\_to\_df)  
names(pmquery) <- NULL  
  
# filter out oddly formatted references  
pmquery <- pmquery[sapply(pmquery,function(x){any(colnames(x)=='year')})]

# Find publications from valid date range

# get date of publication  
datePMID <- as.Date(sapply(pmquery,function(x){paste(x[1,'year'],  
 x[1,'month'],  
 x[1,'day'],sep="-")}))  
  
pmquery <- pmquery[datePMID >= queryDate]

# Exclude manuscripts by authors with similar names

Note -- this part of the code may need to be customized depending on your name and additional publications that arise from a pubmed query.

getInitials <- function(s) {  
 sapply(strsplit(s,split=" "), function(x){  
 toupper(paste(substring(x, 1, 1), collapse = ""))  
 })  
}  
  
validIDs <- !as.logical(sapply(sapply(pmquery,function(x){paste(x$lastname,getInitials(x$firstname))}),function(x){length(grep(authorFilter,x)>0)}))  
pmquery <- pmquery[validIDs]

# Sort into data frame

pmquery.dataframe <- ldply(pmquery,data.frame)  
  
# format author names  
pmquery.dataframe$Initials <- getInitials(pmquery.dataframe$firstname)  
  
# find unique co-authors  
pmquery.dataframe <- pmquery.dataframe[!duplicated(paste(pmquery.dataframe$lastname,pmquery.dataframe$Initials)),]  
  
# alphabetize the list  
pmquery.dataframe <- pmquery.dataframe[order(pmquery.dataframe$lastname,pmquery.dataframe$Initials),]

# Word formatted collaboration list

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