Reproducible paper writing
Some practical recommendations[1]

Sebastian Sauer (FOM)

joint work with Christoph Kurz (Helmholtz Zentrum)

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[1]Slides on Github, http://bit.ly/29N7YH0

Is science broken?

Echo in academia press

Echo in non-academia press

Reproducible paper writing

Sebastian Sauer (FOM)

Is science broken?

What is reproducible writing?

Why should I write my paper in a reproducible manner?

How to do it?

Style sheets

Acknowledgments
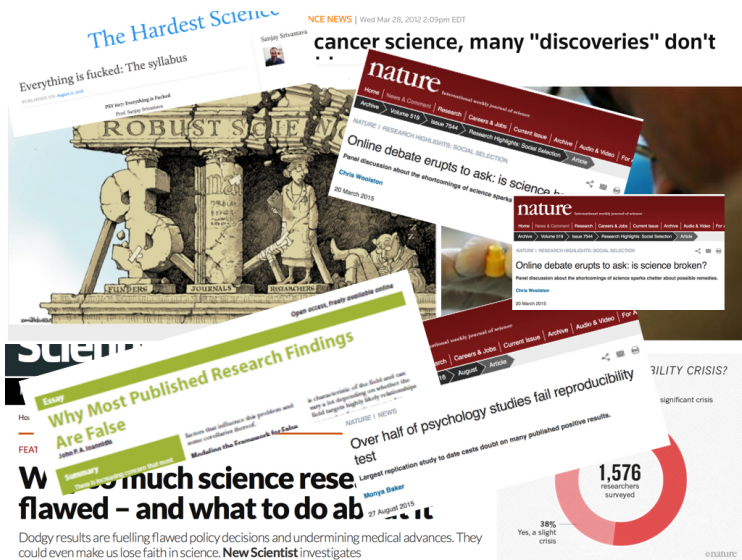
That's it

What is reproducible writing?

Write plain text with computer code included

Why should I write my paper in a reproducible manner?

Re-do analysis with no pain

Dude,
I sent you the wrong data. Find attached new dataset. Re-do all analyses. Did I mention we submit tommorrow?
Regards,

C. Kirk

Match R code to results in paper easily

Paper with ~1,000 lines of wild R code.
In results section:
"After some wild computation, we found accuracy to be
78%. . . "

How to do it?

Process of repro paper writing

R package "knitr"   pandoc

Text+R	Text	PDF/html
plain text	plain text	formatted text
code for data analysis	*results* of data analysis	numbers, figures, tables
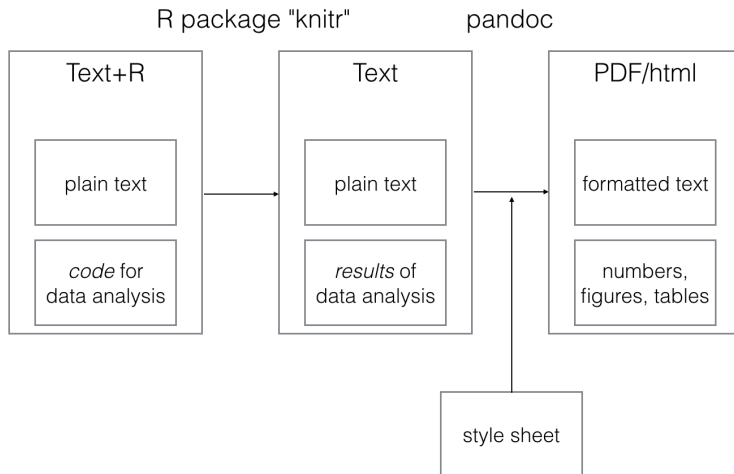
style sheet

Style sheets

Style sheet for thesis/assignment

```
1  ---
2  title: "Titel der Arbeit:mit Doppelpunkt"
3  subtitle: Ein schöner Subtitel
4  referee: Prof. Dr. I. Weiß-Ois
5  course: Seminararbeit im Fach Raketenwissenschaft
6  field: Studiengang Sophismus
7  author: Max Mustermann
8  ID: "Matrikelnummer: 12345679"
9  street: Meine Straße 1
10 zipcity: 12345 Hausenhausen
11 date: 13\. Mai 2016
12 graphics:
13 toc: true
14 lof: true
15 lot: true
16 lang: de-De
17 bibliography: Literatur.bib
18 logo: logo.png
19 documentclass: scrartcl
20 highlight-style: kate
21 output:
22   pdf_document:
23     number_sections: true
```


TITEL DER ARBEIT:MIT DOPPELPUNKT

EIN SCHÖNER SUBTITEL

Seminararbeit im Fach Raketenwissenschaft

Studiengang Sophismus

vorgelegt von
Max Mustermann
Matrikelnummer: 12345679
Meine Straße 1
12345 Hausenhausen

Style sheet for APA papers

Reproducible
paper writing

Sebastian Sauer
(FOM)

Is science broken?

What is
reproducible
writing?

Why should I write
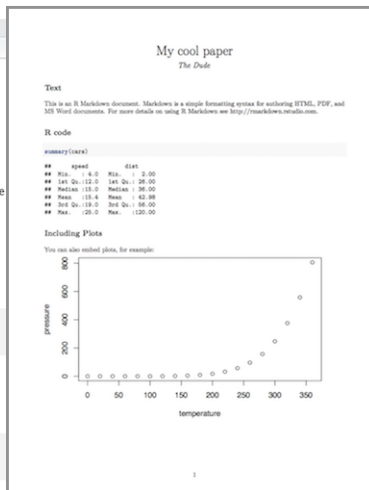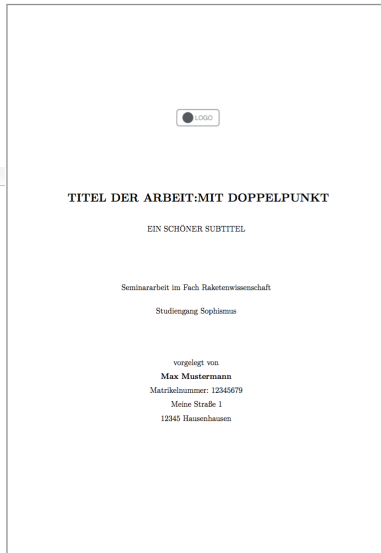my paper in a
reproducible
manner?

How to do it?

Style sheets

Acknowledgments

That's it

Install PAPAJA and open new APA template in RStudio

```
---
title: "How to use papaja: An Example Manuscript Including Basic Instructions"
shorttitle: "How to use papaja"
author:
  - name:  Frederik Aust
    affiliation: 1
    corresponding: yes     # Define only one corresponding author
    department:
    address: "Department Psychology, University of Cologne, Herbert-Lewin-Str. 2, 50931
Köln, Germany"
    email: "frederik.aust@uni-koeln.de"
affiliation:
  - id: 1
    institution: "University of Cologne"

abstract: |
  This manuscript demonstrates how to use R Markdown and papaja to
  create an APA conform manuscript. papaja builds on R Markdown, which
  uses pandoc to turn Markdown into PDF or Word documents. The conversion
  to Word documents currently supports only a limited set of features.

autor_note: |
  `papaja` has not yet been submitted to CRAN; a development version is available at
https://github.com/crsh/papaja.

keywords: "APA style, knitr, R, R markdown, papaja"
```

Acknowledgments

Acknowledgments/ more infos

- Yihui Xie for knitr more
- John Gruber & Aaron Swartz for markdown more
- John MacFarlane for pandoc more
- RStudio team for RStudio more
- R community for R [more]
  (https://cran.r-project.org)
- Frederik Aust for papaja more
- Get my thesis template here
- Github team for github more
- Steven V. Miller for this beamer template
- The unknown God

That's it

Thank you

- **Get slides etc. of this talk here**:
  https://github.com/sebastiansauer/talk_
  repro_writing_DGPs_2016
- Contact: sebastian.sauer@fom.de