

# Open Science Workshop – PhD Day

- Marino van Zelst
  - Behavioral strategy
  - Organizational sociology
  - Favorite hobby: make stuff open!



# Personal advantages

- OA publications have higher citation rates (Tennant et al., 2016; Piwowar et al., 2018)
- “Economics journals with reproducibility policies are cited more often than others.” (Höffler, 2017, AER)
- “I appreciate the fact that you registered your hypotheses and data in a public database” (personal comm. from R&R with editor)
- Scooping paradox: when open, you have proof you were the first

# Societal advantages

- Your family and friends can read your paper without paying 36\$!
- Collaboration with practitioners
- Open data and materials improve replicability and reproducibility (R&R)
  - R&R currently too low (Camerer et al., 2016; Open Science Collaboration, 2015)
- Contributes to Citizen Science



## Q&A

- Is this the real life, or is this just fantasy?

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- Is this the real life, or is this just fantasy?
- “But I need to publish in ‘high-profile’ journals”
- “My supervisor doesn’t understand this”
- “But this costs me a lot of time”
- “Making research open is scary, everybody can see what I did”



Ask ourselves continuously:

Can my future-self or anyone else  
reproduce this result within a  
reasonable amount of time?

“Full amnesia / the bus factor”



## A potential tool: Open Science Framework

- Online environment & collaborative
- Collaborative
- Can make files public but not mandatory
- Watch out: currently US servers (privacy!)
- More advanced? E.g. Github/Bitbucket
- Today:
  - Preprints
  - Version control
  - Preregistration
  - Dynamic documents

Files

Click on a storage provider or drag and drop to upload

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Name	Modified
With whom do firms form ties? A meta-analysis on the influence of ...	
- OSF Storage	
20150701thesis.docx	2016-07-15 02:54 PM
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- preregister hypotheses	
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- analyses	

preregister hypotheses

van Zelst, Oerlemans & Mannak

Preregistration of hypotheses.

preregister analysis plan

van Zelst, Mannak & Oerlemans

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With whom do firms form ties? A meta-analysis on the influence of embeddedness and proximity on inter-organizational tie formation

van Zelst, Mannak & Oerlemans

We meta-analyze the influence of important embeddedness dimensions and proximity dimensions on interorganizational tie formation with a dataset that e...

# Preprints

- Preprint = paper before peer review
  - Postprint = after review, non-typeset version
- Allows for fast dissemination of knowledge
- Garner feedback from more than 2-3 anonymous sources
- Prepare community for paper: higher impact!

**NOT PEER-REVIEWED**

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# "As-you-go" instead of "after-the-fact": A network approach to scholarly communication and evaluation

Opinion article

Science and Medical Education

Science Policy

Chris HJ Hartgerink<sup>1,2</sup>, Marino van Zelst<sup>3</sup>

January 24, 2018

## > Author and article information

## ▼ Abstract

Scholarly research faces severe threats to its sustainability on multiple domains (access, incentives, reproducibility, inclusivity). We argue that "after-the-fact" research papers do not help and actually cause some of these threats because the chronology of the research cycle is lost in a research paper. We propose to give up the academic paper and propose a digitally native "as-you-go" alternative. In this design, smaller pieces of

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Outline

Partially adapted from Hartgerink  
(2016): <http://bit.ly/chrisPM101>

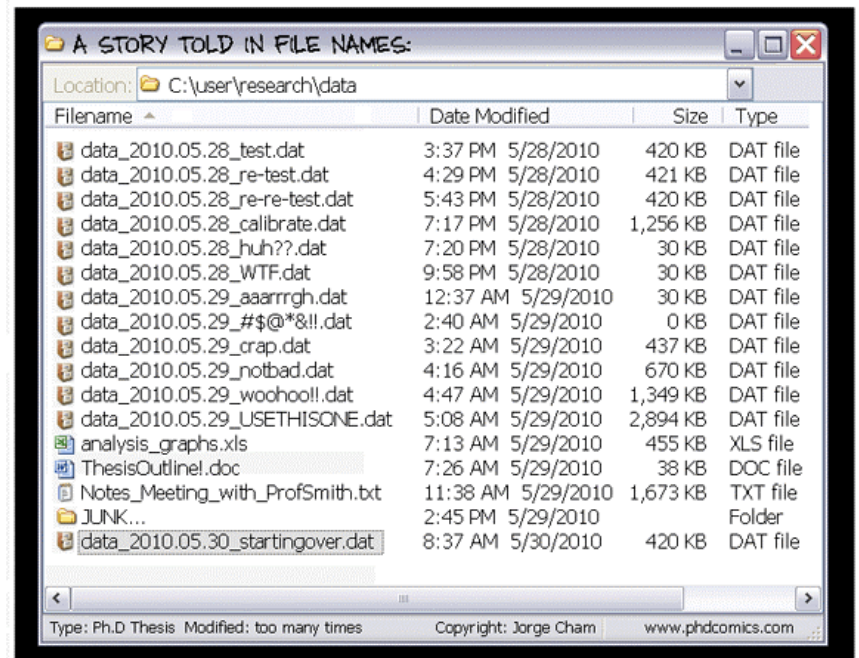
# Version control 'oldskool'

manuscript.pdf

manuscript\_final.pdf

manuscript\_final2.pdf

manuscript\_final3.pdf





Partially adapted from Hartgerink  
(2016): <http://bit.ly/chrisPM101>

# Version control 'open style'



Revisions				
Version ID	Date	User	Download	
13	2016-07-15 02:54 PM	Marino van Zelst	0	
12	2016-05-27 09:13 PM	Marino van Zelst	2	
11	2016-05-25 08:36 PM	Marino van Zelst	1	
10	2016-05-10 06:09 PM	Marino van Zelst	3	
9	2016-05-10 06:02 PM	Marino van Zelst	0	
8	2016-05-09 08:26 PM	Marino van Zelst	0	
7	2016-05-08 12:30 PM	Marino van Zelst	0	
6	2016-05-04 09:18 PM	Marino van Zelst	0	
5	2016-05-03 09:21 PM	Marino van Zelst	0	
4	2016-05-03 11:29 AM	Marino van Zelst	0	
3	2016-04-29 08:07 PM	Marino van Zelst	0	
2	2016-04-25 07:38 PM	Marino van Zelst	0	
1	2016-04-25 04:50 PM	Marino van Zelst	0	




# Preregistration

- Preregistration limits HARKing which is still practiced a lot (Banks et al., 2016; Bosco et al., 2016)
- Publicly register confirmatory and exploratory hypotheses/data collection/analyses/etc.
- “In a world of transparent reporting, I choose preregistration as a way to selfishly show off that I predicted the outcome of my study.” (Datacolada.org, 2014)

# Preregistration

<sup>2</sup> We preregistered hypotheses on the Open Science Framework to prevent HARKing (Bosco *et al.*, 2016) and to certify the integrity of the research cycle:  
[https://osf.io/zpkav/?view\\_only=20880f78a2e943d581d617288cc7c134](https://osf.io/zpkav/?view_only=20880f78a2e943d581d617288cc7c134)

# Preregistration

 OSFHOME ▾


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preregister hypotheses

Contributors: Anonymous Contributors

Date created: 2016-02-22 12:37 PM | Last Updated: 2017-12-22 07:04 PM

Category:  Hypothesis

Description:



Preregistration of hypotheses.




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 preregister hypotheses	
-  OSF Storage	
 20160222hypotheses-final.pdf	2016-02-22 02:54 PM

<sup>2</sup> We preregistered (Bosco *et al.*, 2016) and <https://osf.io/z>

ent HARKing (Bosco *et*

# The future of writing: dynamic documenting

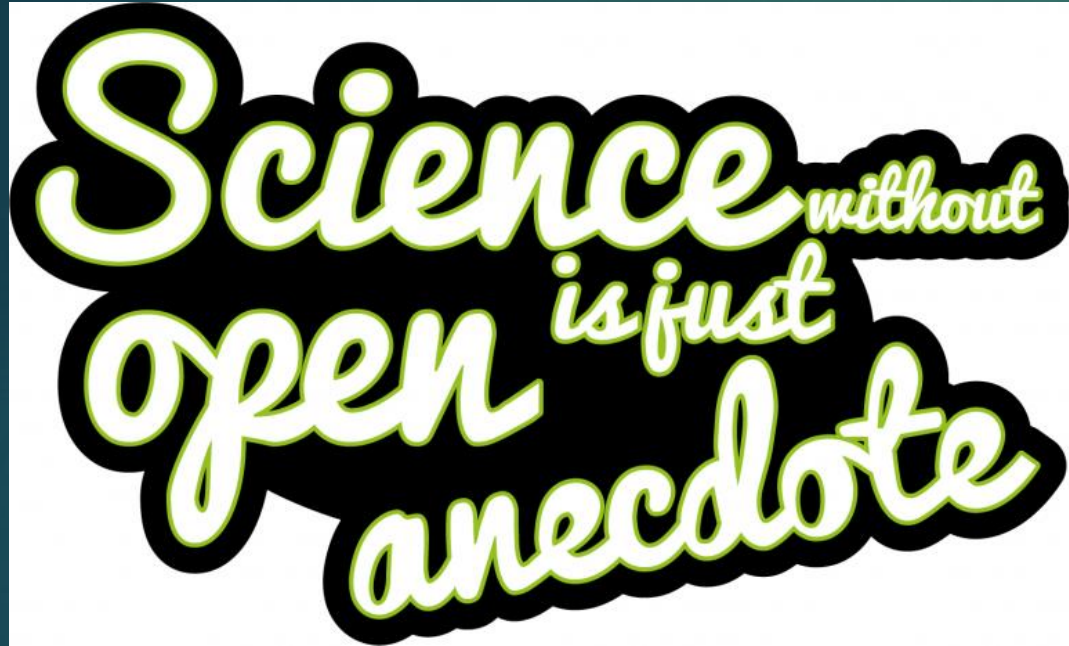
- knitr, Rmarkdown
- Code in R: Responses to historical performance feedback are heterogeneous, as the Q-statistic is ``r round(all.hpfb_dv$QE,3)` (*p*-value = `r round(all.hpfb_dv$QEp,3)`)`
- Text in paper: Responses to historical performance feedback are heterogeneous, as the Q-statistic is 392.468 (p-value = 0.003)

# Open Science: The way to go!

- Data audit guidelines  
<https://www.tilburguniversity.edu/research/social-and-behavioral-sciences/download-guideline-datapackage-tsb/>
- Assignment on 'how to OSF': <http://bit.ly/OSFintro>
- Find me if you want help with making your work (more) open and reproducible!
- J.m.vanzelst@uvt.nl / S6.04
- @mzelst



# 'Open science' is just 'science'



“Open science describes the practice of carrying out scientific research in a completely transparent manner, and making the results of that research available to everyone. Isn’t that just ‘science’?”

Mick Watson, Genome Biology 2015, 16: 101  
doi:10.1186/s13059-015-0669-2

Adapted from McKiernan (2015)