

# de-RSE - The German RSE Chapter

## The Research Software Engineering Landscape in Germany

Open Science Days 2019

*Heidi Seibold<sup>1</sup> and Stephan Janosch<sup>2</sup>*

1 - Institute for Medical Information Processing, Biometry, and Epidemiology, LMU Munich

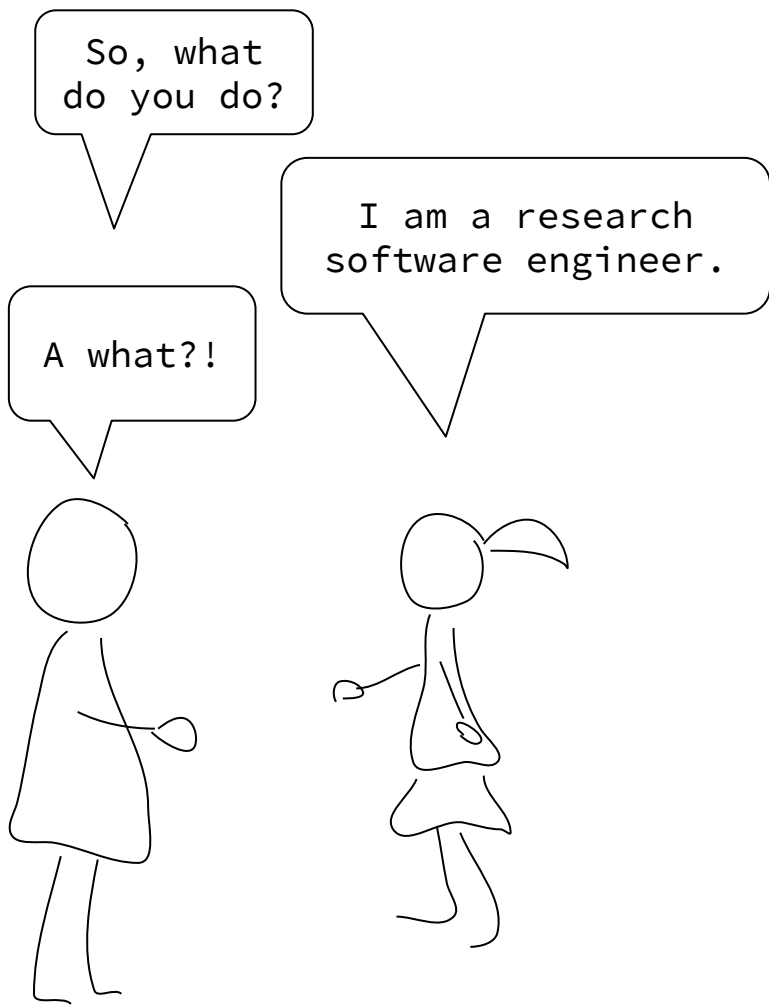
2 - Max Planck Institute of Molecular Cell Biology and Genetics, Dresden



GESELLSCHAFT FÜR  
FORSCHUNGSSOFTWARE

Please ask  
questions!





# The Researcher

- Needs analysis scripts (or other software skills) for her research
- Learns what she needs



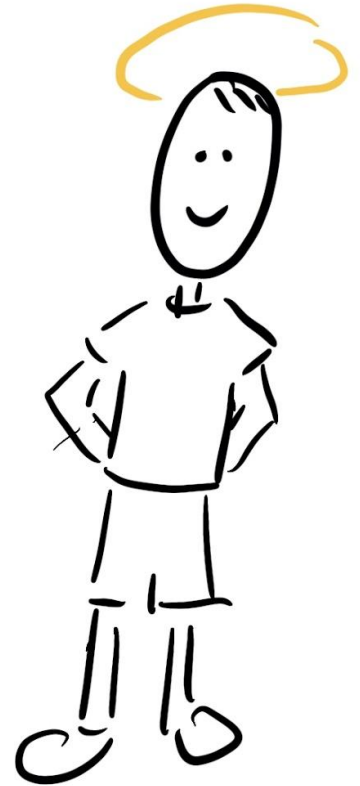
# The Geek

- Writes software as part of her research project
- Would like to code more, but needs to think about her career and write papers



# The Go-To Person in case of problems

- Knows how to solve all kinds of computer problems
- Is hired to work on other things but is kind enough to help because he likes it



# The Reproducibility Guru

- Learns lots of software tools in order to make his research reproducible



# The Software Person

- Is hired to work on software for a research project
- Decides to leave academia because companies seem to value her skills more



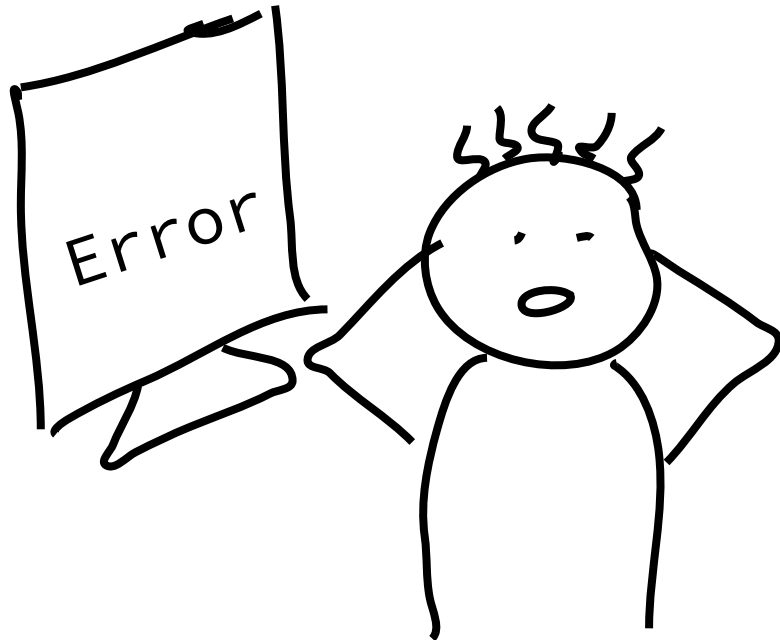


We need people who...

- Develop helpful tools / software
- Help researchers with finding + learning good tools
- Support researchers with (computational) reproducibility
- Support in writing software and teach best practices

=

Research Software  
Engineers (RSEs)



# An awkward situation



RSEs are not getting the support / career / citations they deserve

+

Research needs RSEs

# Community initiation



- UK: March 2012
- Germany: Sep 2016 at RSE16; Association Nov 2018



About Programmes and Events

## A not-so-brief history of Research Software Engineers

Posted by s.aragon on 17 August 2016 - 2:26pm

By **Simon Hettrick**, Deputy Director

On a beautifully sunny day in March 2012, a small group met at Queen's College Oxford and challenged a long-standing problem: why is there no career for software developers in academia? They didn't know it at the time, but this meeting led to a nationwide campaign that created a vibrant and rapidly growing community, and established a new role in research: the Research Software Engineer.



Launching the German RSE chapter "de-RSE"

By Martin Hammitzsch, GFZ Potsdam, Stephan Janosch, MPI CGO & Frank Loeffler, Louisiana State University

The days following the first conference of Research Software Engineers (RSEs) saw the launch of a German RSE chapter de-RSE. It was formed by RSEs working inside and outside Germany, and it will further the shared objectives of RSEs and become the collective mouthpiece for RSEs within the German science.

All of the authors were exposed to the day-to-day problems caused by using software in science, and this meant that many of us were following the Software Sustainability Institute, and a few other activities around the globe. The lucky ones among us were even able to participate in events over the last few years to see how to improve our situation. Over the last few years a critical mass of motivated Research Software Engineers (RSEs) formed at various locations across Europe, North America and a few other countries. Then in September 2016, the world's first conference for RSEs took place in Manchester. It was the right time for this event. Bringing together RSEs led to discussions about how to transfer the UKRSE spirit to other countries. How could other national science systems benefit from the professionalisation of software engineering in sciences? How can the people behind research software receive the acknowledgment and resources they deserve?

Our contribution is mainly, but not only, in the area of scientific software development. We want to prepare science for the ever-increasing influence of new technologies and new IT concepts, help the community cope with the challenges posed by the increasing digitalisation of research, and help to exploit the resulting opportunities.

We believe that the de-RSE can promote the sustainability and falsifiability of scientific software development as part of research processes, persuade more researchers to view software as a foundation of publications and research data, and promote scientific software as a key building block in Open Science.

We want to establish research software engineering as an essential core competence, especially among young scientists who become the next generation of researchers. We can do this by supporting the professionalisation of software development in research through training and the application of minimal best practices. We want to improve job advertisements and searches by promoting a generic term for software development in academia. Ultimately, we want to integrate research software engineering into higher-level activities, e.g. in the context of e-Science and e-Infrastructures. And last but not least, we want to give RSEs a voice and represent their interests within the German science landscape.

To achieve our objectives, we are already having a number of plans, some of which are underway. We will provide a forum for the exchange of computer scientists, software developers, RSEs and scientists developing in and for research. Implement Software Carpentry (SWC) workshops or workshops that follow the SWC concept, establish a Fellowship Program in which academics represent and realise the aims of the German RSE community locally, regionally, nationally and internationally. We're going to organise an annual research software conference, covering software engineering and not only for RSEs, help to establish RSE teams in research institutes, universities and other scientific institutions and organisations, and establish a national centre for research software, covering the German research landscape and embedded in the e-Science and e-Infrastructure movement.

The German RSE community will bring together researchers, scientists and other software developers working in Germany, and help uncover and address issues related to the use of software in research. A mailing-list, slack channel, and GitHub organisation have been set-up to help the community communicate. In January the first de-RSE Community Call took place together with the Open Science Call of a Working group of the German Open Knowledge chapter. Successive de-RSE Community Calls will take place on the first Thursday of a month at 2pm. Anyone is invited to join! Get in touch with like-minded peers, reach out, and contribute with your own topics, ideas, and activities. Information on how to join can be found on our website.

Tags: Martin Hammitzsch, Stephan Janosch, Frank Loeffler, Research Software Engineers, International, Policy

Software and Research Blog

24-March-2017 - The Practice of Reproducible Research - By Justin Kitzes, University of California, Berkeley We are very happy to...

22-March-2017 - Increasing participation in distributed projects - By Mario Antonietti, Software Sustainability Institute, Nicoletta Evdokim...

21-March-2017 - Promoting Sustainable Software Practice - By Blair Archibald, University of Glasgow, Gary Leeming, University of...

20-March-2017 - What are you waiting for? Register for CW17 today! - By Shoahid Sufi, Community Lead! If you are a PhD candidate, Jisc...

16-March-2017 - Encouraging the open publication of software code: learning from the Open Data Institute Certificate model - By Alice Harpole, University of Southampton, Danny Wong, Royal College of...

Latest News

23-March-2017 - Map of Centres for Doctoral Training (CDTs) - The Software Sustainability Institute has gathered information on the...

17-March-2017 - Call for talks, posters, workshops and tutorials for RSE17 open - Following the success of the First Conference of Research Software...

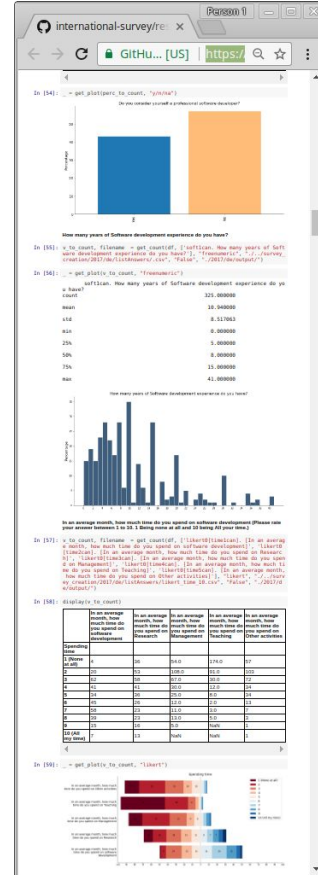
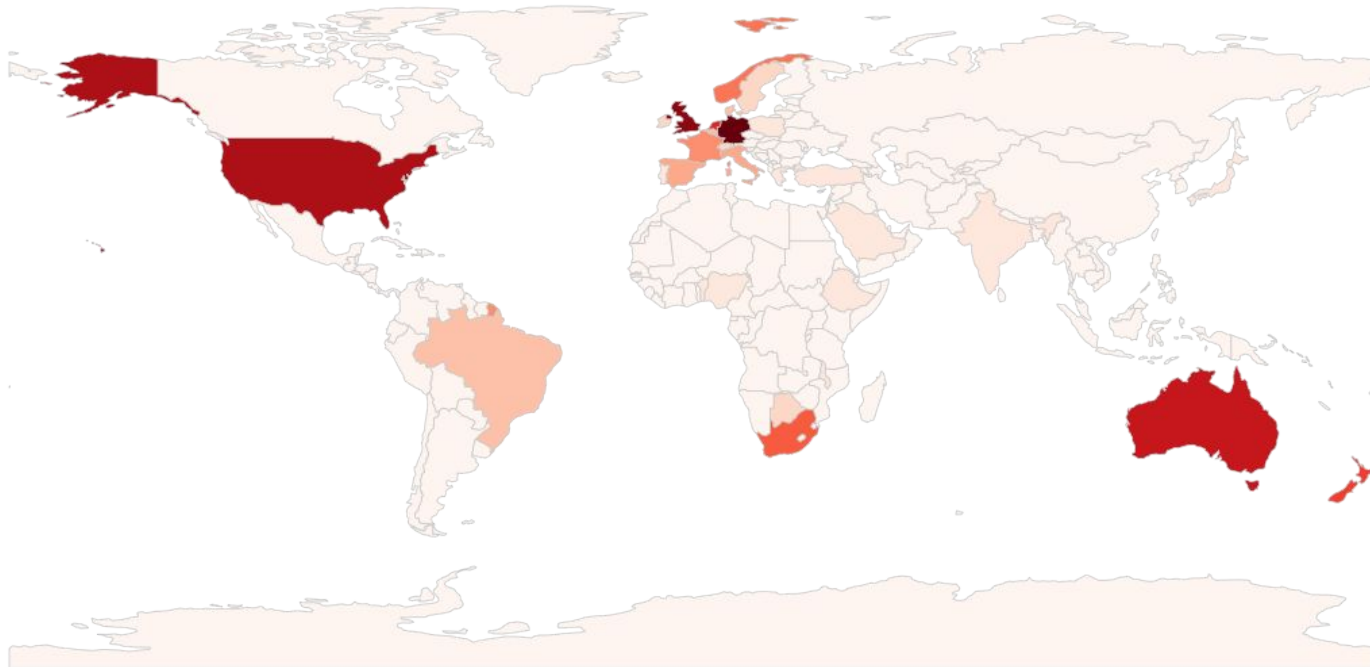
14-March-2017 - Addressing the gender gap in the UK RSE community - Most of us recognise that diverse teams are good for productivity and...

07-March-2017 - Jisc offers a bursary for a lucky PhD student to attend CW17: Apply now! - Are you a PhD student based in the UK and want to attend our...

06-March-2017 - Call for Papers: Docker Containers for Reproducible Research Workshop [closed] - Submit your abstract by 31st March 2017 at midnight. Presenters are...

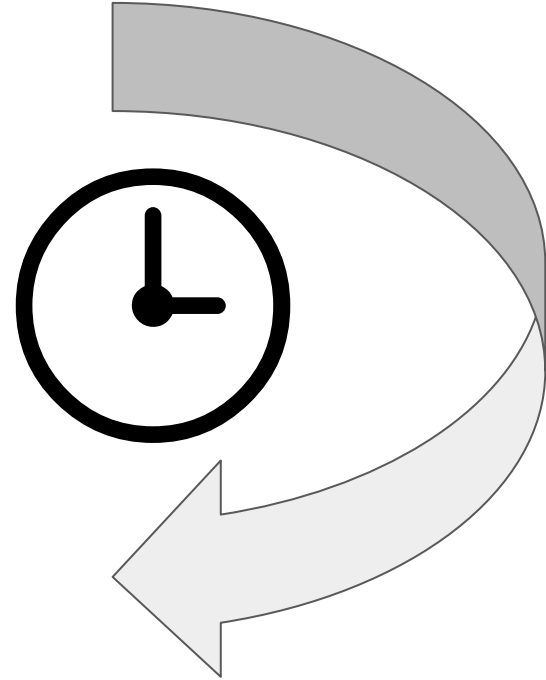
# Survey 2018

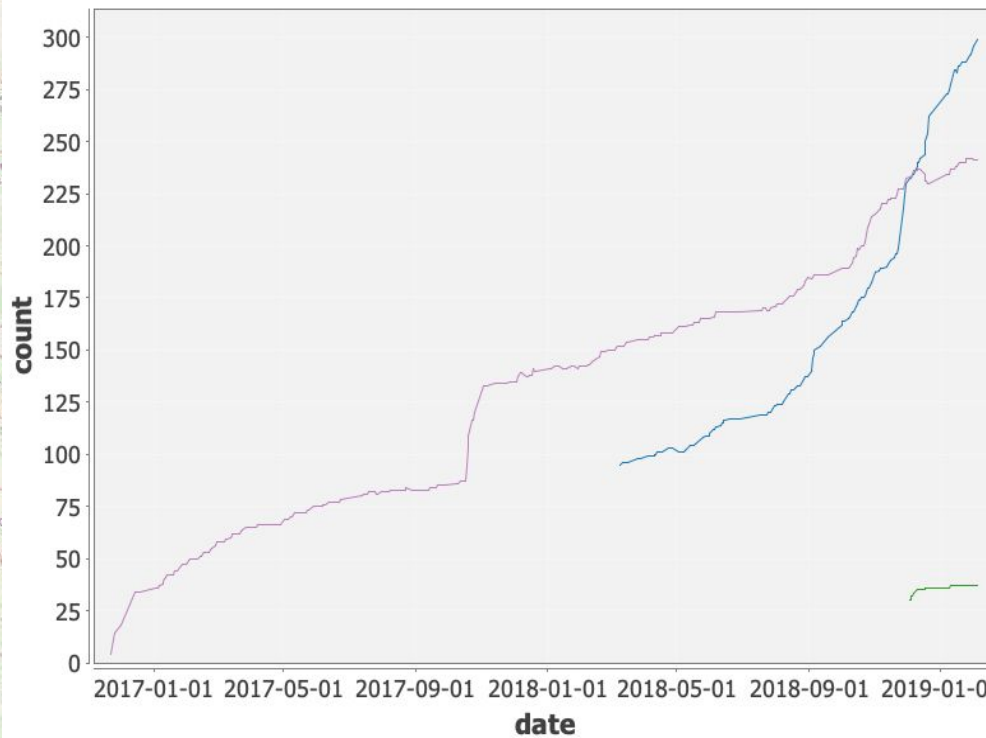
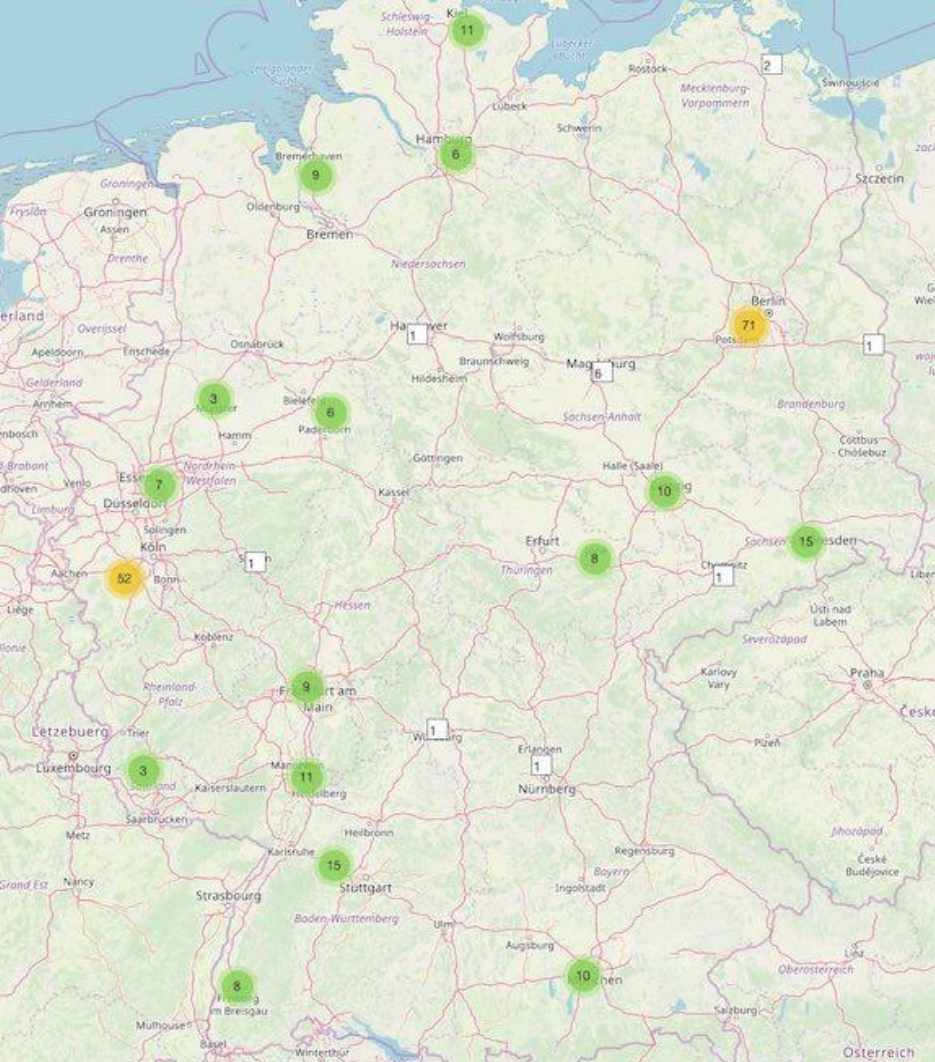
~ 1000 persons



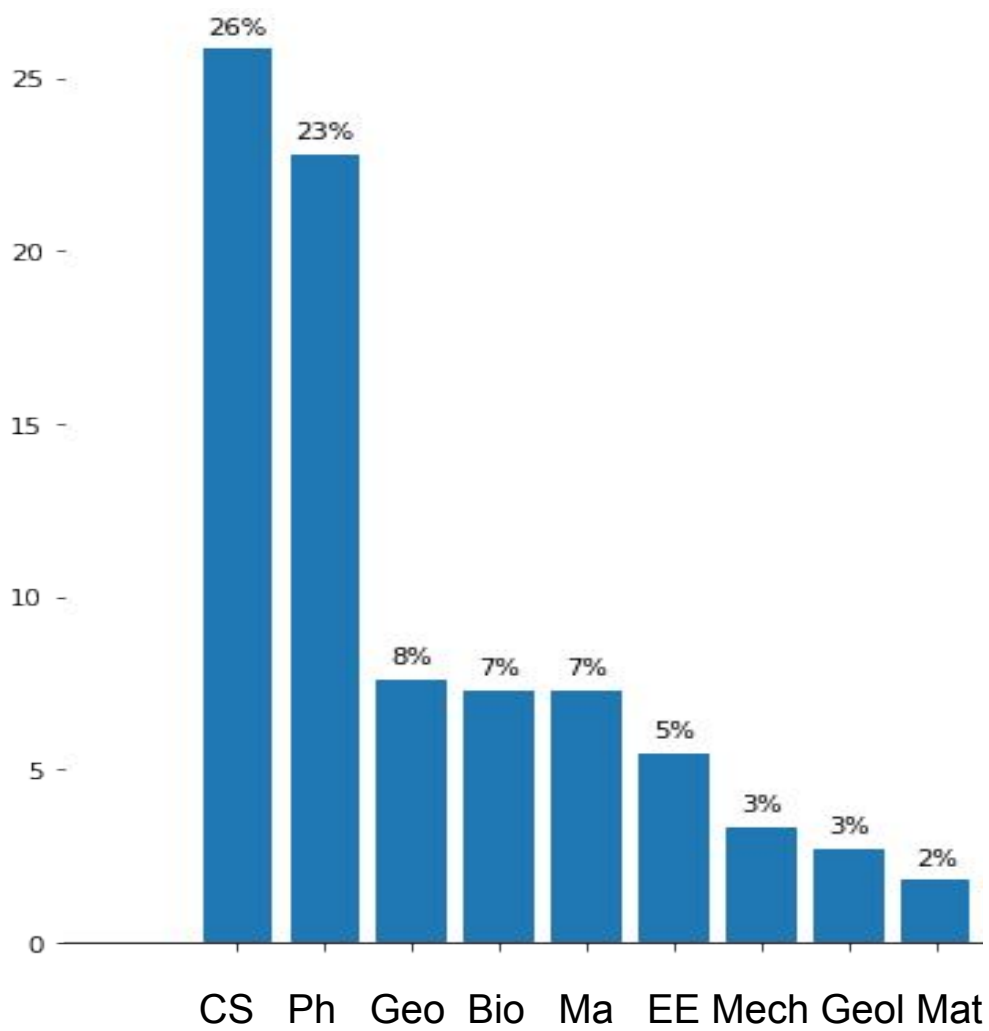
# Survey Structure

- Demographics
- Coding
- Employment
- Current contract
- Previous employment
- Collaboration and training
- Publications
- Sustainability and tools
- Job satisfaction
- Network

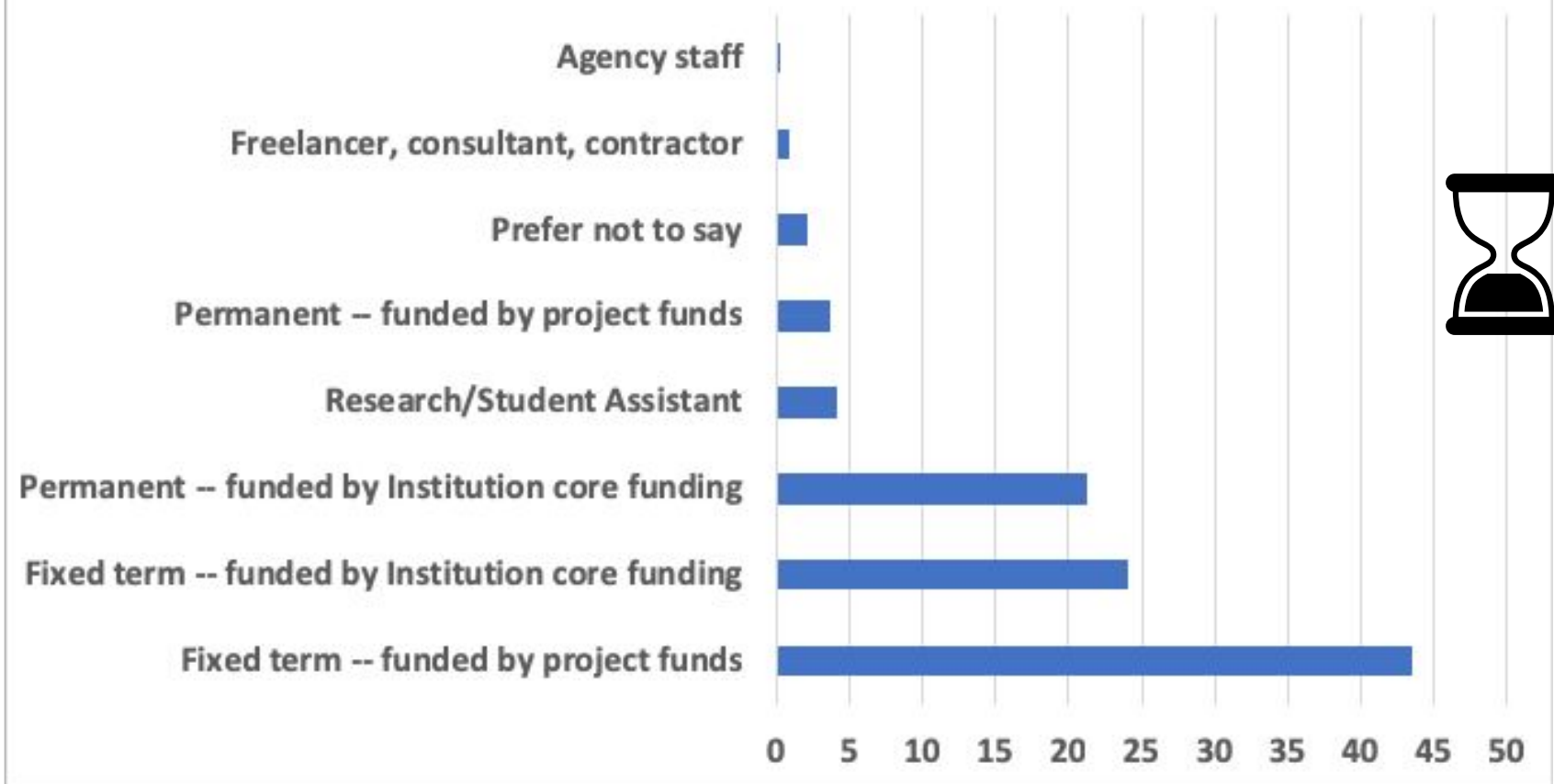




— de-rse — RSE\_de\_follower on Twitter — map entries



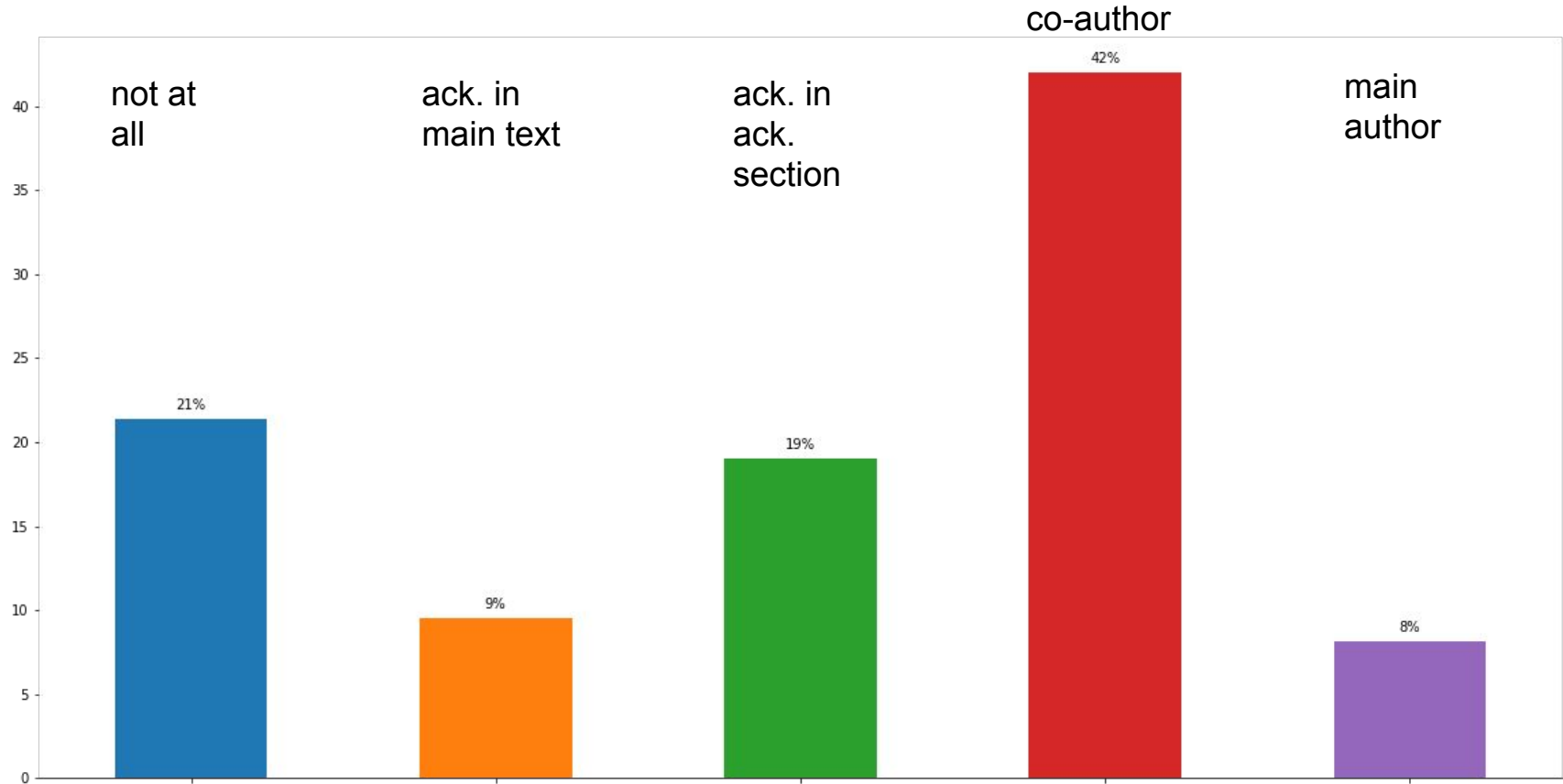
### Employment nature in %





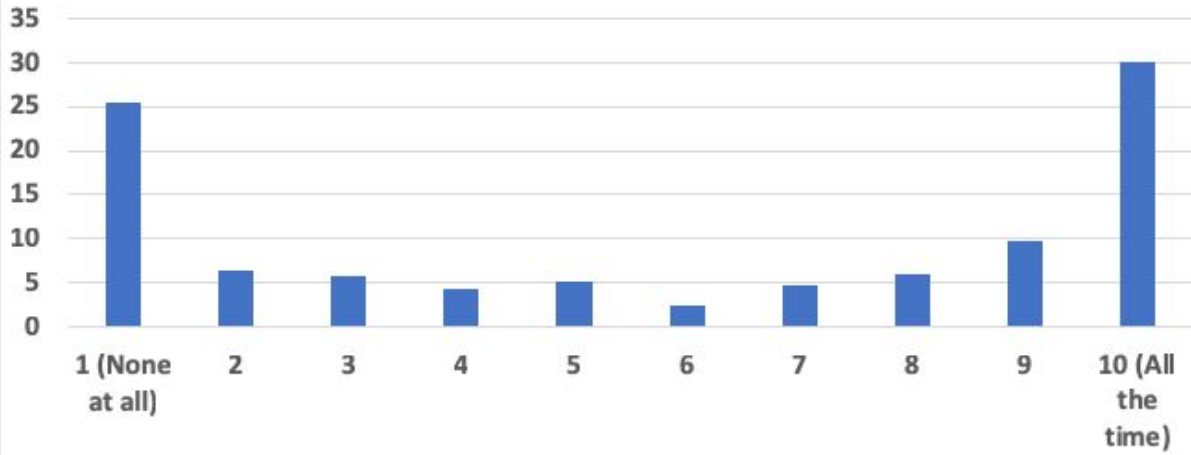


# acknowledgment

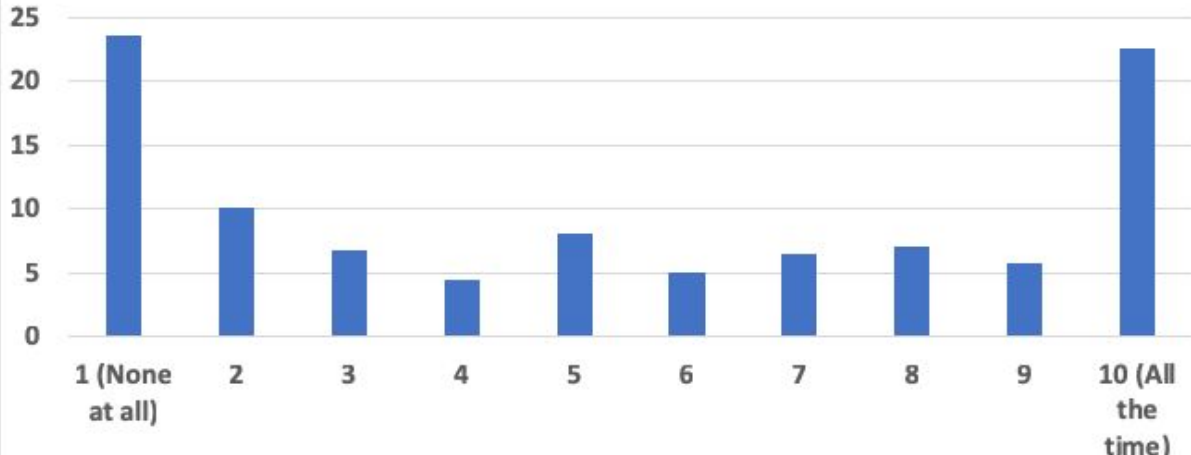




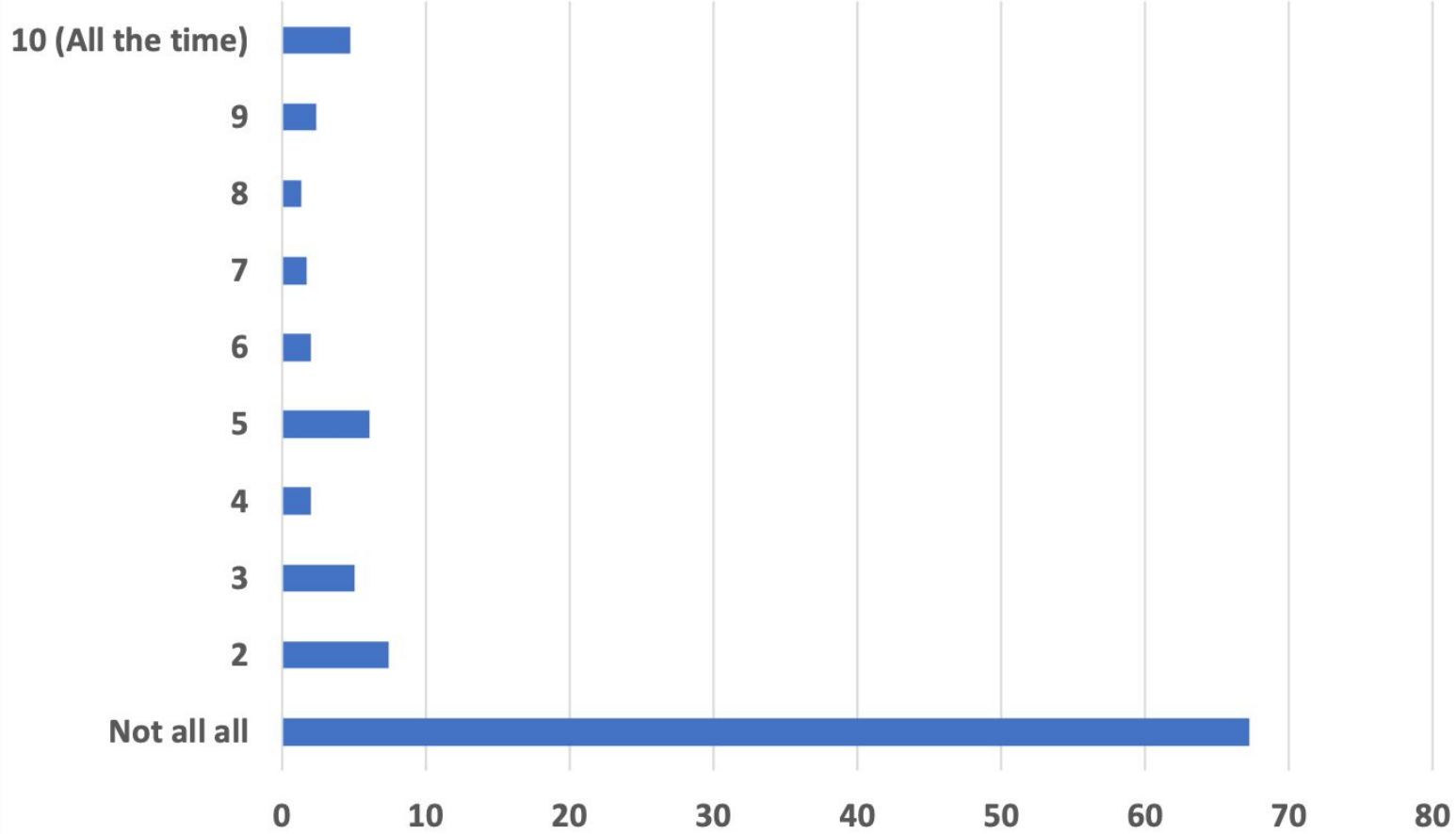
Open Source license in %



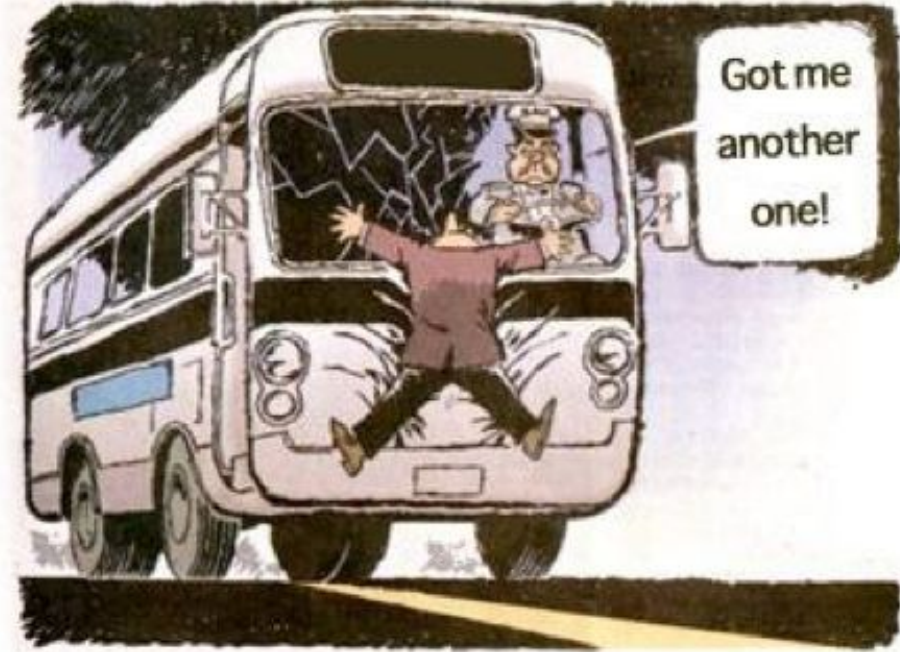
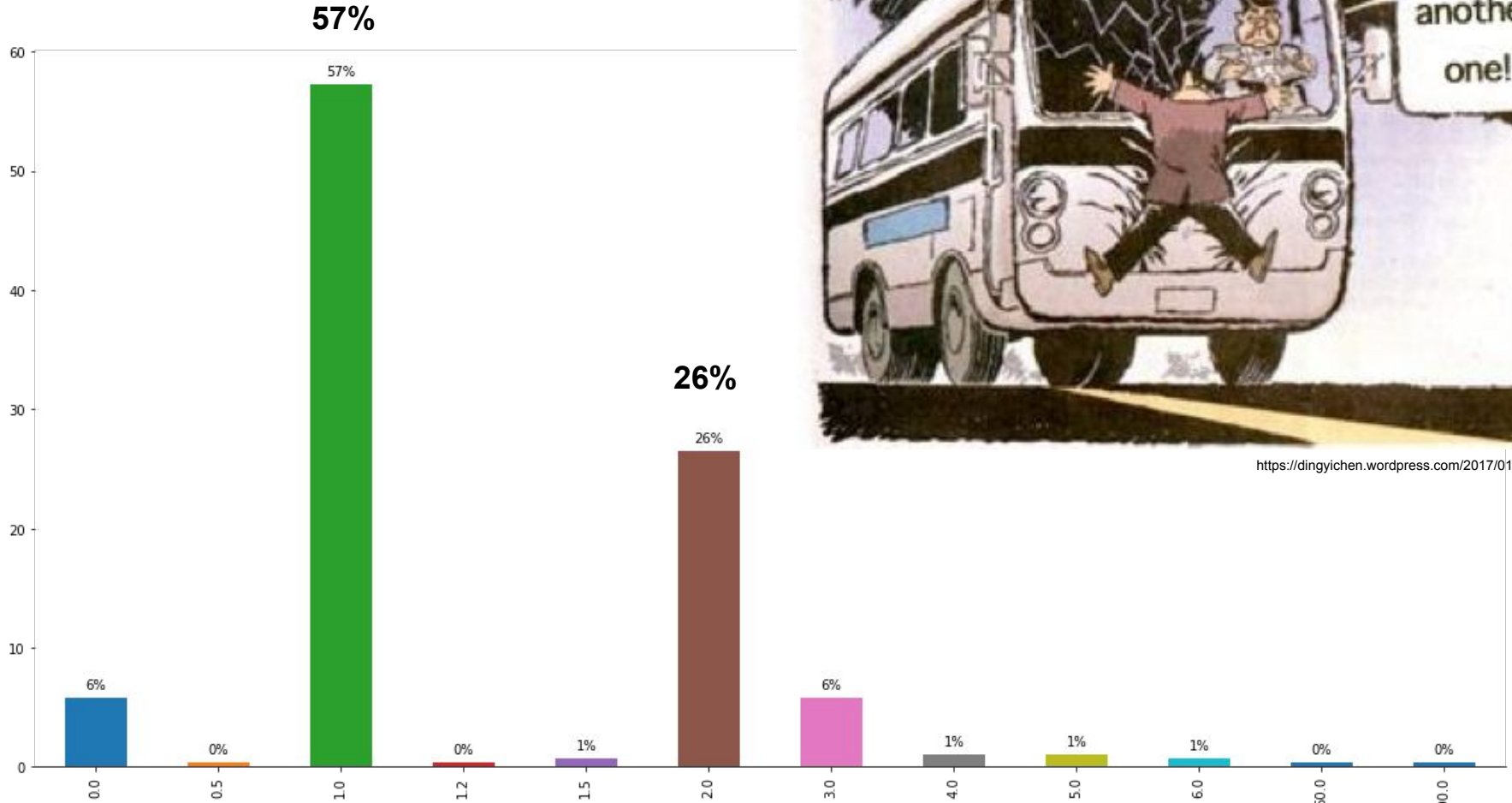
Software/Paper referencing in %



### DOI usage in %



# Bus factor



<https://dingyichen.wordpress.com/2017/01/31/1753/>

# Transition Plan

Current proportion of Presence of a transition plan for Germany



# Summary

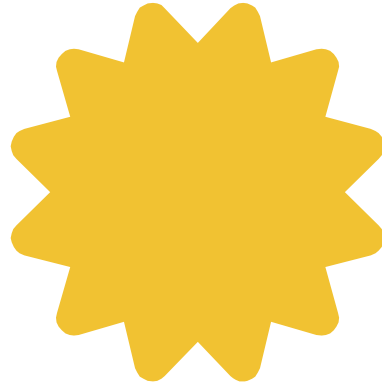
- Bad care taking
  - High bus factor and almost no transition plans
- A conference is missing
  - People work alone
- Lack of guidelines
- Lack of best practises
  - Citation
  - Rewards
  - Career
  - Education (e.g. Software Carpentry)
- SW is not only a tool, but also result



# Objectives



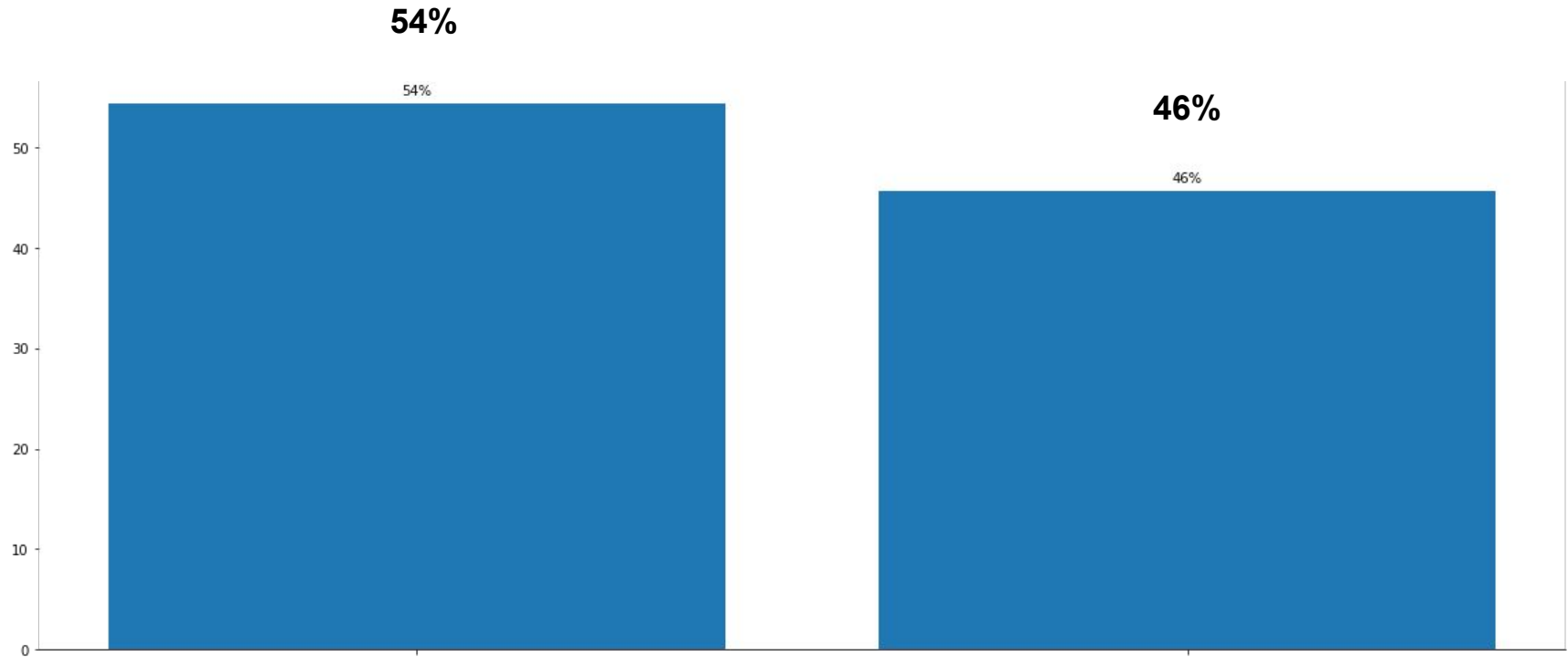
open source  
initiative®



**BETTER  
SOFTWARE  
BETTER  
RESEARCH**



# conference participation



# Activities



Blog

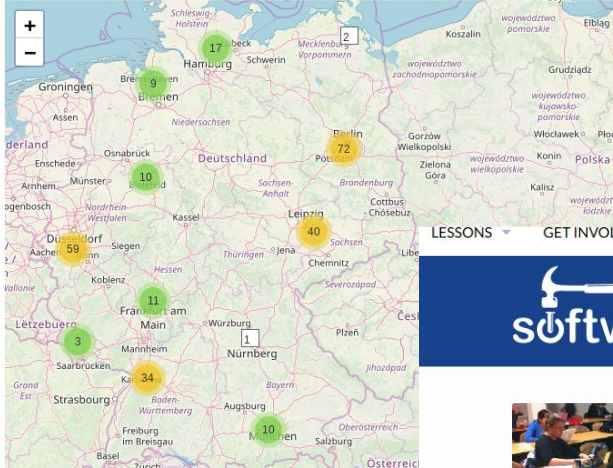
## Umfrageverteilung 2018 in Deutschland

Post only available in German

Stephan Janosch, January 29, 2019

Ähnlich wie im letzten Jahr kann auch die Beteiligung an der RSE-Umfrage 2018 grafisch dargestellt werden. Das Clustering summiert die Beteiligungen der einzelnen Institutionen. Die Zahl gibt an, wieviel Antworten von wo zur Studie beigetragen haben.

Hinweis: Dieses mal liessen sich nur 268 von 333 Beteiligungen zu verorten.



RSE de-RSE

# deRSE19 - Conference for Research Software Engineers in Germany

GESELLSCHAFT FÜR FORSCHUNGSSOFTWARE

LESSONS GET INVOLVED BLOG

Teaching basic lab skills for research computing





# Thank you!

Slides:

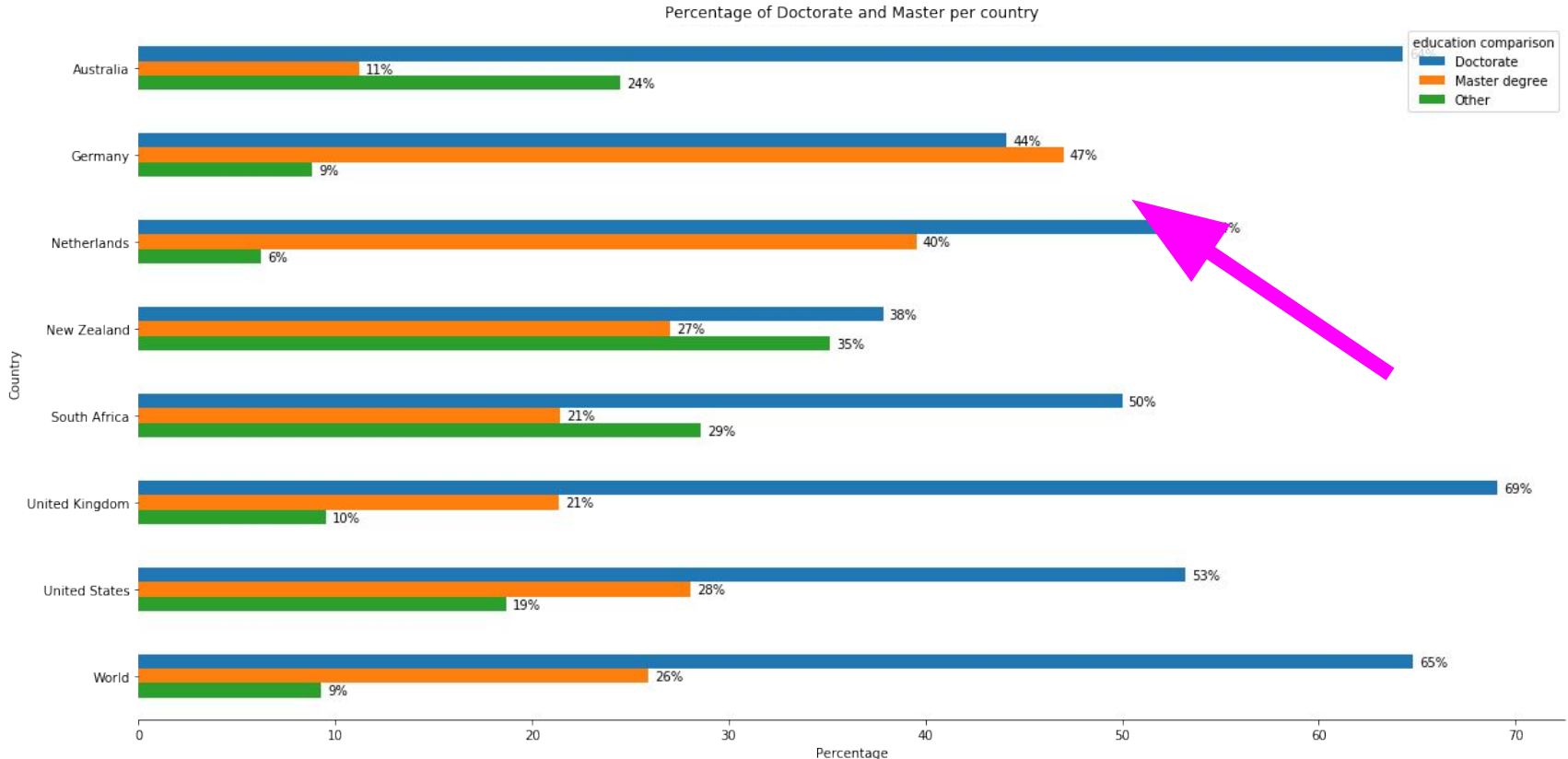
[goo.gl/A15Xpa](https://goo.gl/A15Xpa)



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<b>Degree</b>	<b>Count</b>	<b>%</b>
Doctorate	133	40.06
Master degree	169	50.90
Undergraduate degree	19	5.72
Other	11	3.31

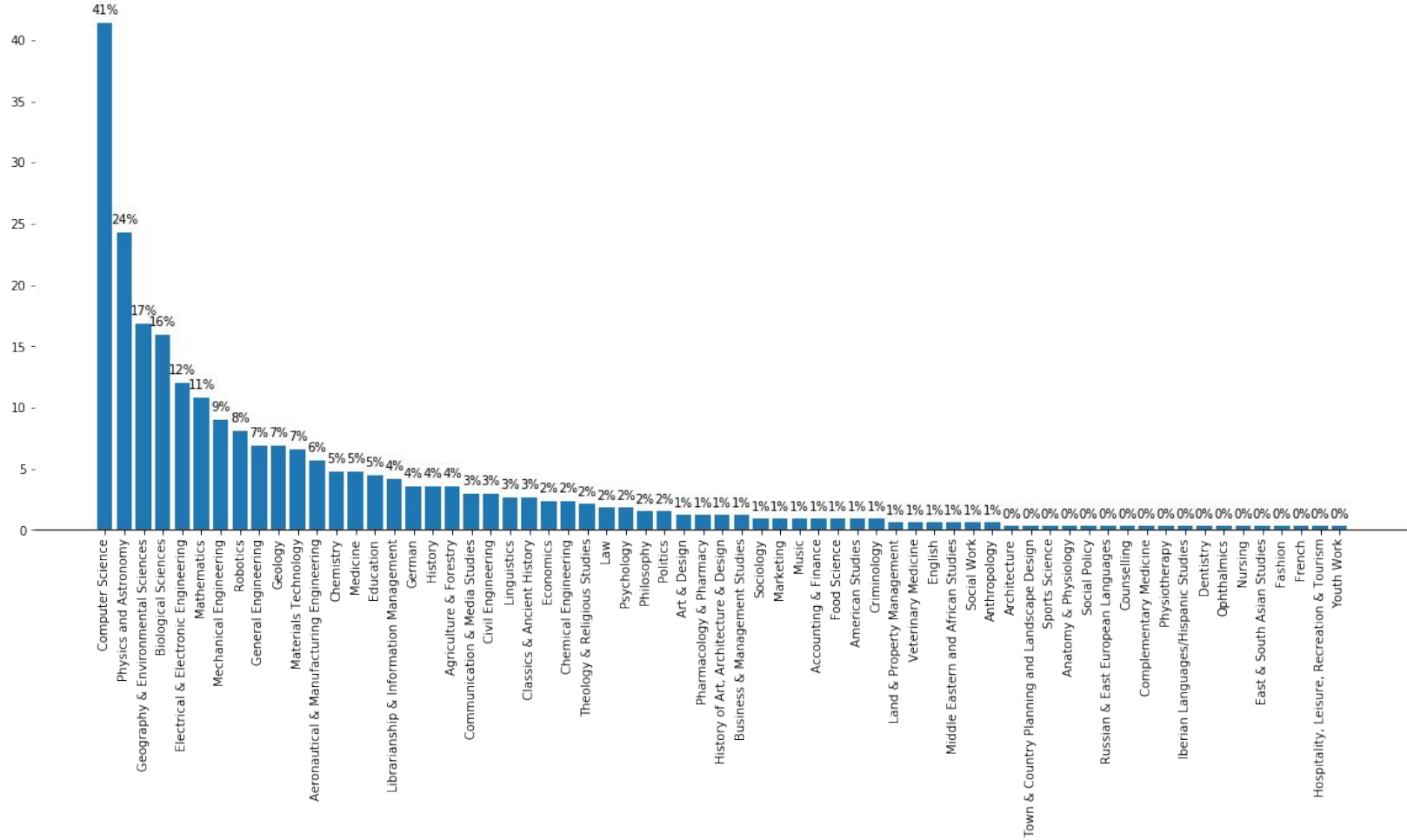
# Less doctorates in Germany



# Field of Work (multiple choice)



Current proportion of in which field for Germany



- Helmholtz Open Science Workshop #hgfos16  
“Access to and reuse of scientific software” [1,2,3](#)
- RSE Community at the GFZ German Research Centre for Geosciences
- Building Communities EMBL workshop
- Working group RSE in Digital Humanities (DH-RSE within DHd Association) [1,2,3](#)
  
- RSE @ FrOSCon 13 being prepared
- RSE-DE conference being discussed and successively organized



# software developers/project

