

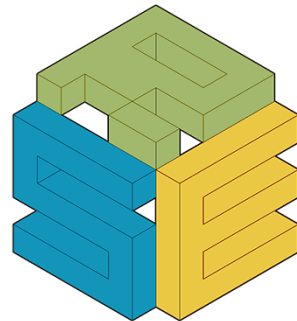


# RSE in UK Academia

Paul Richmond

University of Sheffield (UK)

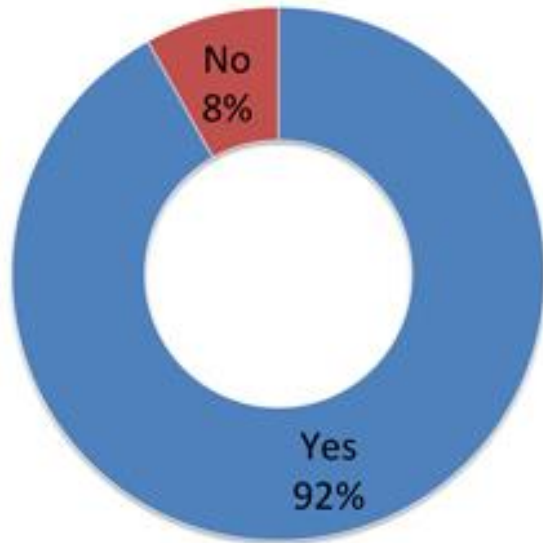
<http://rse.shef.ac.uk>



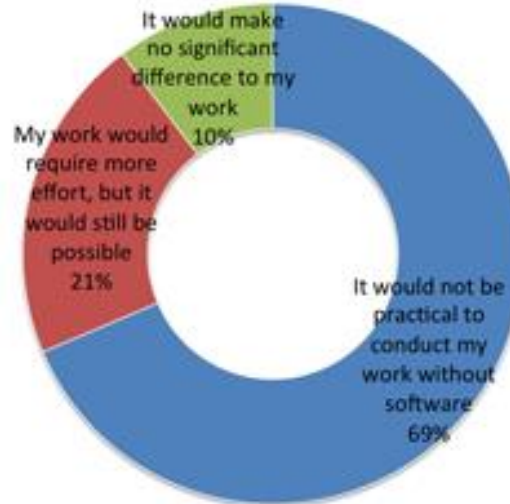
**Research  
Software  
Engineering  
Sheffield.**

*How Many UK Researchers use Research Software?*

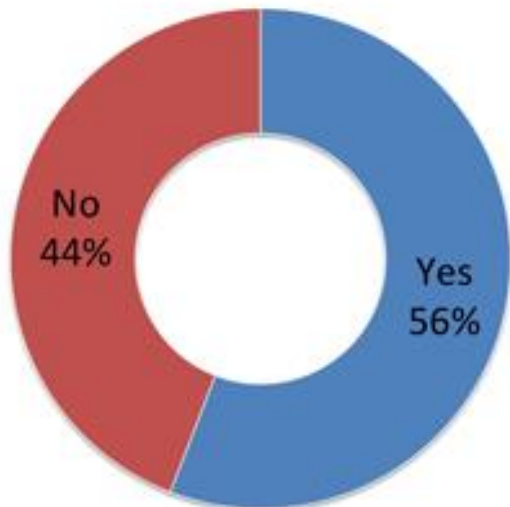
Do you use research software?



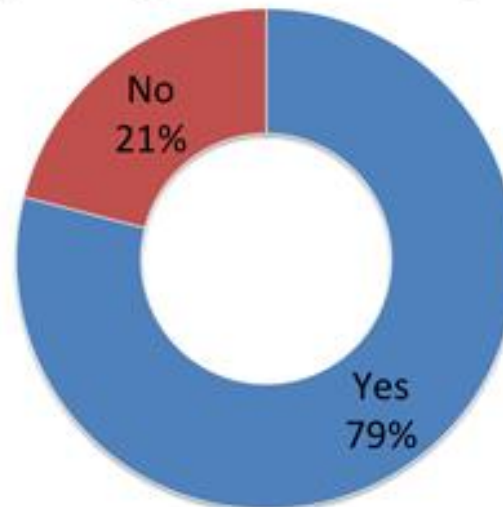
What would happen if you could no longer use research software?



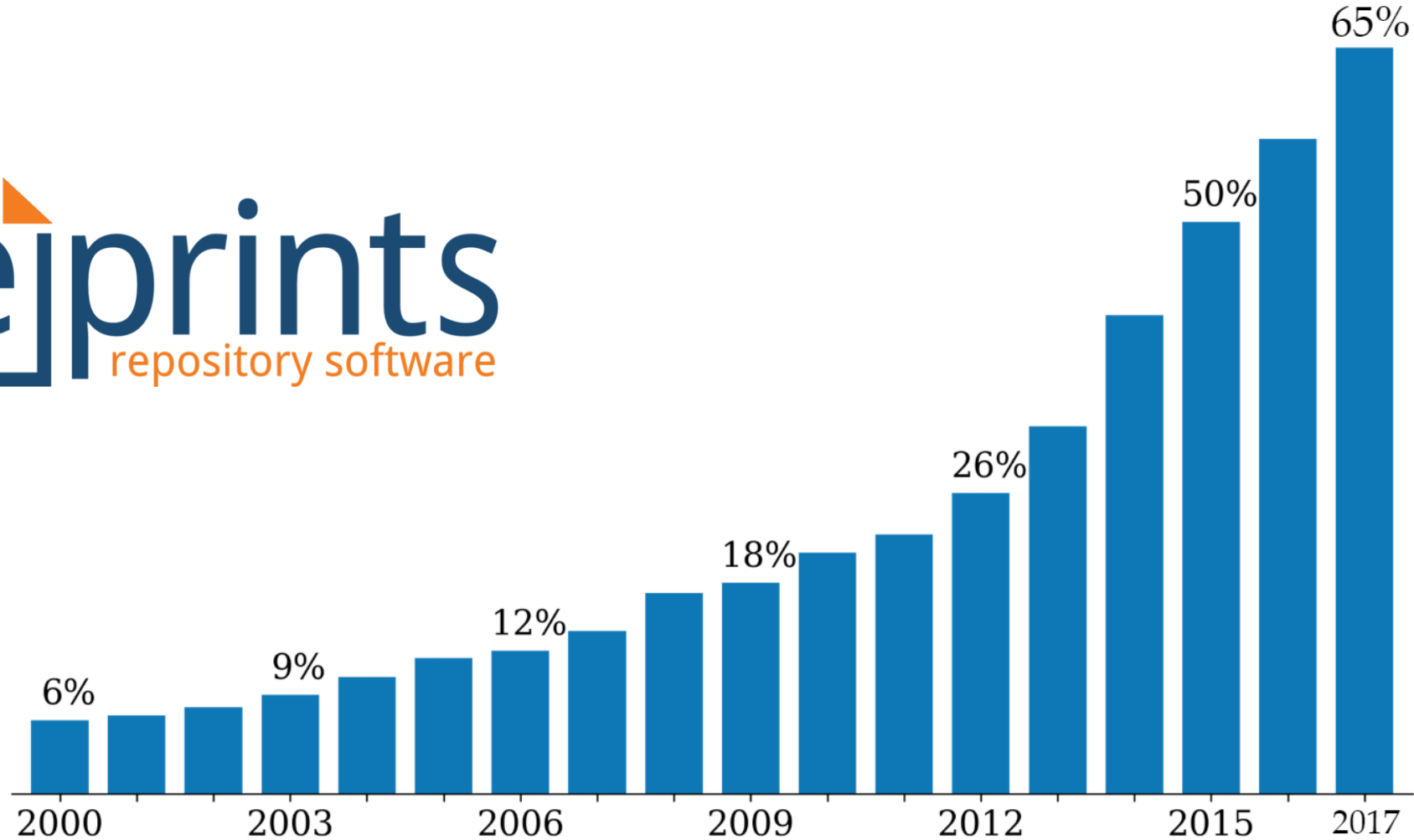
Do you develop your own research software?



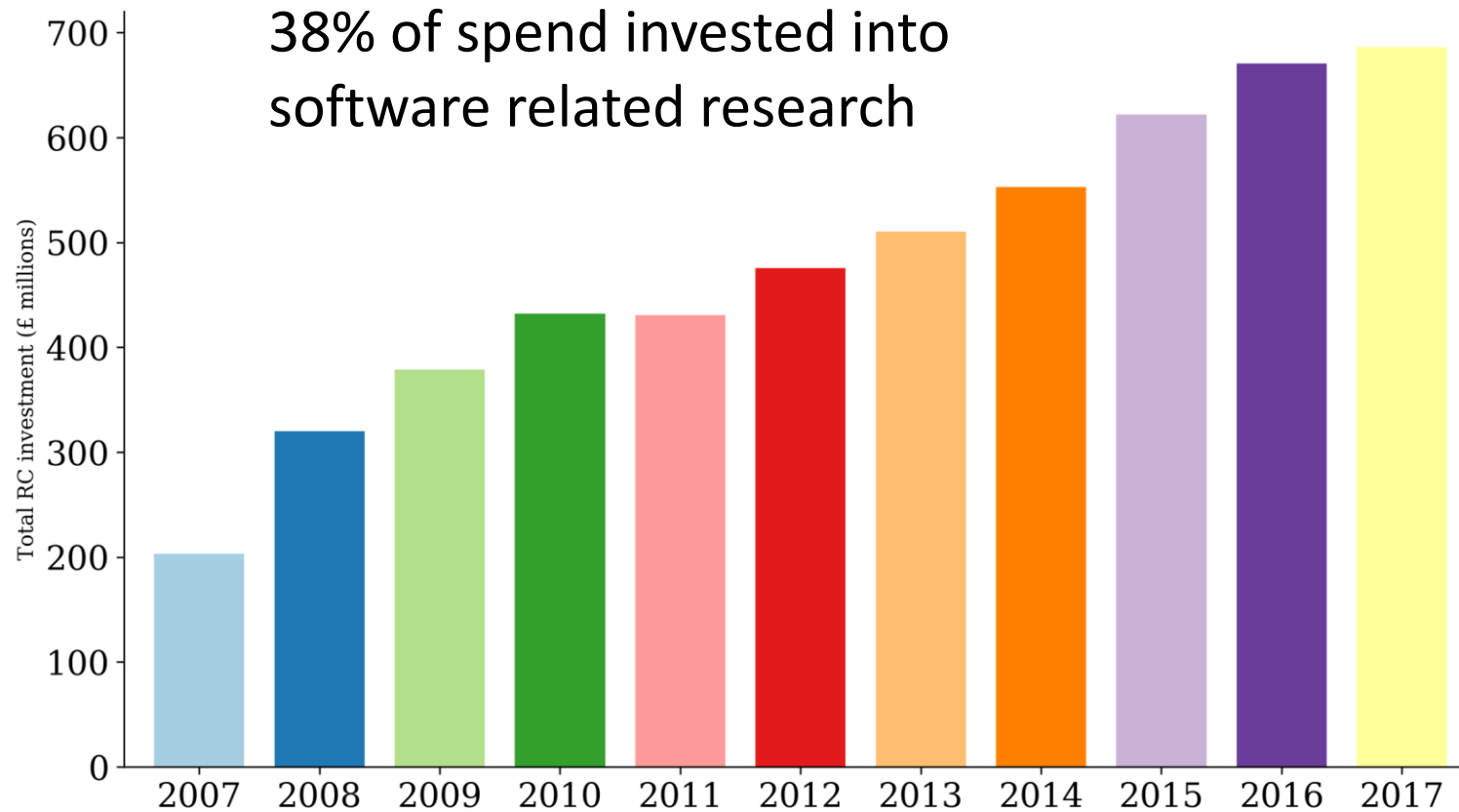
If you develop software, have you received any training in software development?



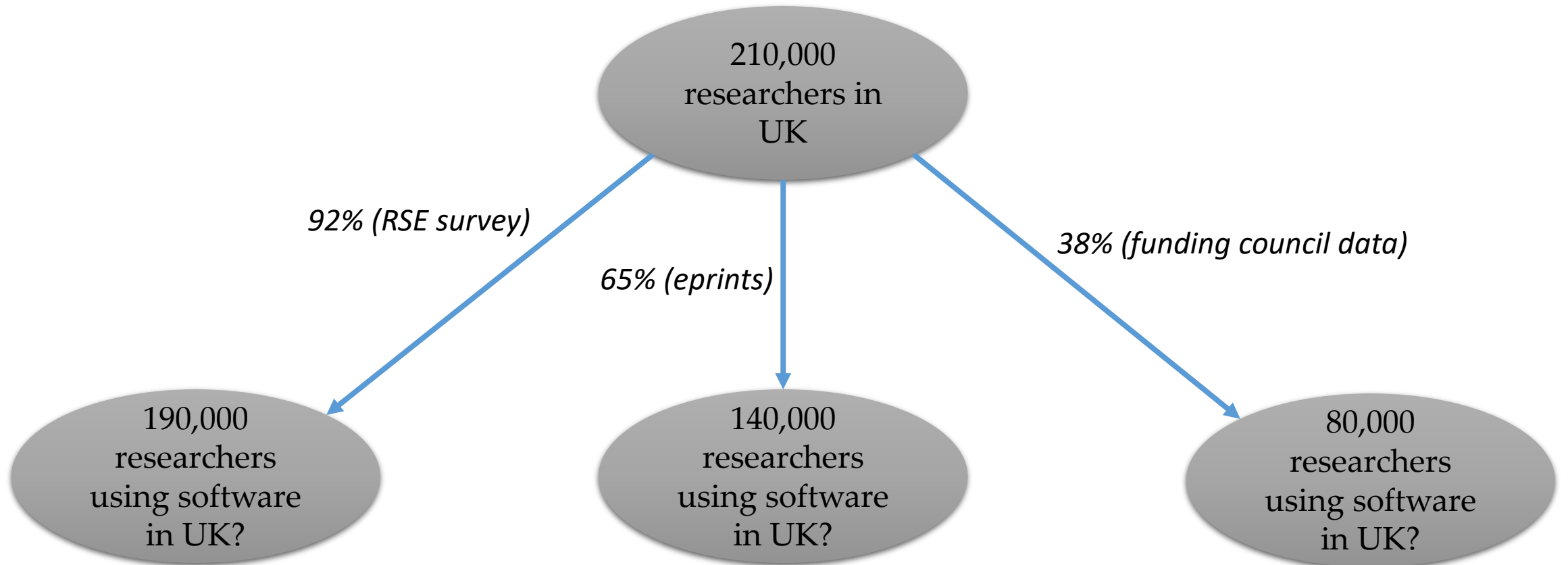
# Representation in traditional metrics



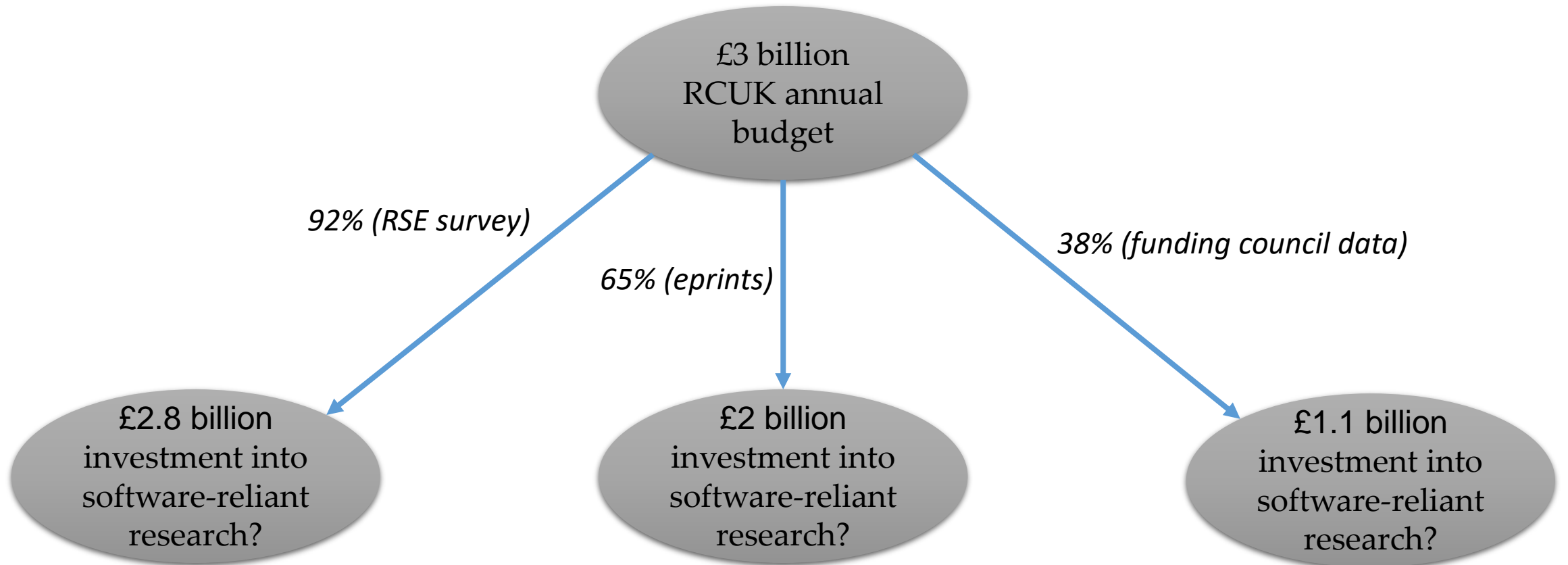
# Representation in Funding



# Overall trends (Extrapolated)



# Overall trends (Extrapolated)




A Scientist's Nightmare: S x

Not secure | science.sciencemag.org/content/314/5807/1856

# Science

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## A Scientist's Nightmare: Software Problem Leads to Five Retractions

Greg Miller  
+ See all authors and affiliations

Science 22 Dec 2006:  
Vol. 314, Issue 5807, pp. 1856-1857  
DOI: 10.1126/science.314.5807.1856

Article   Figures & Data   Info & Metrics   eLetters   PDF

Until recently, Geoffrey Chang's career was on a trajectory most young scientists only dream about. In 1999, at the age of 28, the protein crystallographer landed a faculty position at the prestigious Scripps Research Institute in San Diego, California. The next year, in a ceremony at the White House, Chang received a Presidential Early Career Award for Scientists and Engineers, the country's highest honor for young researchers. His lab generated a stream of high-profile papers detailing the molecular structures of important proteins embedded in cell membranes.

Then the dream turned into a nightmare. In September, Swiss researchers published a paper in *Nature* that cast serious doubt on a protein structure Chang's group had described in a 2001 *Science* paper. When he investigated, Chang was horrified to discover that a homemade data-analysis program had flipped two columns of data, inverting the electron-

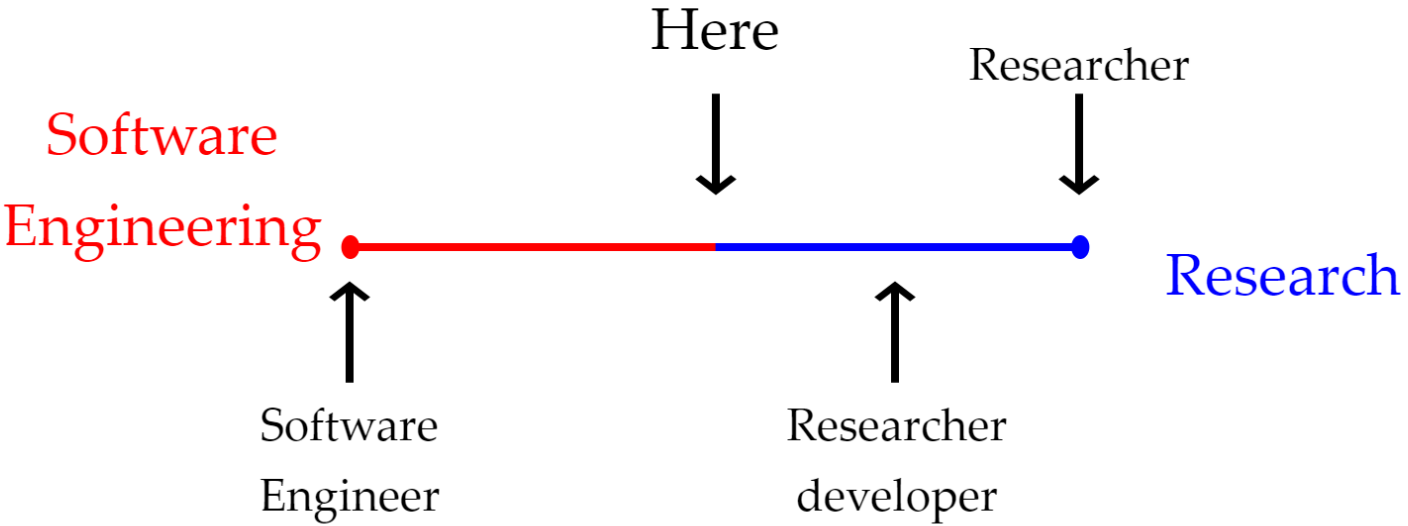
Full Text  
Help



# The problem with being a developer in research

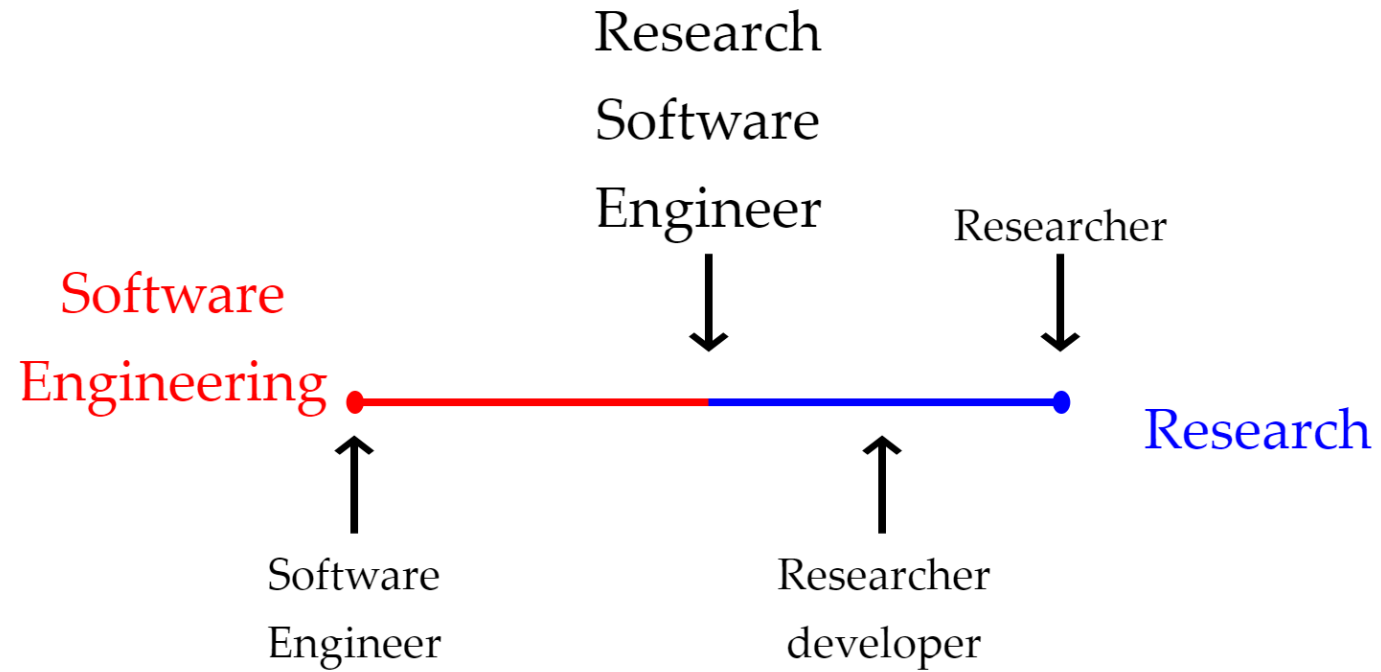
- Lack of career path
- No recognition
- Lack of training
- Industry pays better
- Lack of recognition for software itself

# The people behind research software



Analyst Developer Analyst Programmer Analyst Programmer - SITS (x 3) Analyst/Programmer Applications Developer Applied Scientist Architectural Robotics Developer Assistant Data Programmer Assistant Project Manager Atmospheric Correction and Radiative Transfer Model Scientist Audio Software Developer - KTP Associate Bioinformatician Bioinformatician In Potato Genomics and Genetics Bioinformatician/Computational Bioscientist in Microbiology Bioinformaticians Bioinformatics Analyst Bioinformatics Postdoctoral Researcher Bioinformatics scientist Biometric Software Systems Developer Biorespository Software Developer C++ / 3D Graphics Software Engineer Casebooks Project Editor (Research Assistant/Associate) Climate Researcher (Research Associate) Clinical Study Programmer CoMPLEX Research Associate Computational Biologist / Bioinformatician Computational Scientist Computational Scientist in Computational Fluid Dynamics & Industrial Applications Computational Scientist in Structural Mechanics and Industrial Applications Computer Scientist Computer Vision Researcher Content Developer/Programmer Control Engineer-IMG - 3 posts CREATE Data Specialist Data Analyst Data Integration Coordinator Data Manager x3 Database and Software Engineer Database Manager/Researcher Database Programmer Digital Media Technician E-Learning Portal Manager (KTP Associate) e-Learning Systems Development Analyst e-Learning Systems Development Analyst (Moodle, SQL) E-Learning Web Developer E-Portfolio Learning Technologist Embedded Systems Engineer Engineering Technician Environmental Scientist EPSRC Studentship on Algorithmic Construction of Finsler-Lyapunov Functions Experimental Officer in Bioinformatics Experimental Psychologist Finance Assistant Gaia Alerts Software Developer Gaia Software Developer (Gaia UK Team) GIS Applications Specialist Graduate Programmer / Software Developer Graphics Programmer Health Data Manager / Scientist High Throughput Bioinformatician High Throughput Sequencing Bioinformatician (Two posts) HIVE Manager/ HIVE Co-ordinator HIVE Senior Researcher and Technical Lead Hydro-informatics Scientific Software Developer Image Analysis Manager for Cancer Imaging Information Systems Developer Instrumentation Engineer Investigator Statistician IT Developer IT Services Manager IT Services Specialist (e-Learning Systems) IT Support Technician (Unix / Windows Systems) Knowledge Transfer Partnership (KTP) Associate in Innovation Technology Knowledge Transfer Partnerships (KTP) Associate - Software Developer KTP Associate - Robot Vision Scientist (Research Fellow) KTP Associate (Fixed Term Contract for 24 months) KTP Associate (Precision Agriculture Data Analyst) KTP Associate at Graduate Web Developer KTP Associate: Electronics / Robotics Engineer Learning Technologist Leicester Respiratory BRU IT Developer Linguist / Psycholinguist Maker Space Technician Marie Curie Early Stage Researcher Marie Curie Early Stage Researcher in Radar Rainfall for Integrated Water Quality Modelling Marine Earth Observation Scientists Medical Statistician Medical Statistician/Senior Medical Statistician Metrology Engineer Mobile Application Developer NASC IT Support - Programmer and Systems Administrator (Fixed-term) NIHR Research Medical Research Fellow PL Abon Project on Automated Multisensor Surveillance Planning Officer Policy Modeller 2014 Post - Doctoral Research Assistant INTRON Post Doctoral Research Worker Post Doctoral Researcher in the application of Digital Technology Post-Doctoral Research Assistant in Data Analysis and Visualization Post-Doctoral Research Associate Post-Doctoral Research Associate (Pathogen Genomics) Post-Doctoral Research Fellow Postdoctoral Fellow - population genetics / evolutionary genetic Postdoctoral Fellow in Bioinformatics Postdoctoral Fellow in Cancer Therapeutics Postdoctoral Research Assistant Postdoctoral Research Associate Postdoctoral Research Fellow Postdoctoral Research Scientist Postdoctoral Researcher in Declarative (Logic and Functional) Programming Postdoctoral Researcher Postdoctoral Scientist Postdoctoral statistician Postdoctoral Training Fellow - Statistical and Computational Genetics of Autism Principal / Senior Bioinformatician Principal Bioinformatician Product Development Engineer (Rail) Publishing Portal Web Developer Radio Frequency Engineer Reader in Computer Science Reporting Analyst Research (Software) Engineer Research Assistant Research Associate Research Fellow Research Image Data Manager, Biomedical Engineering Research Officer Research Officer at Social Protection Research postgraduate Research Programmer Research Scientist Research Scientist / Senior Research Scientist Research Scientist in Machine Learning and Computer Vision Research Software Developer Research Software Developer for the Herchel Smith Professor of Organic Chemistry Research Software Engineer Research Studentship Research Worker Researcher SAP Trainee Technical Analyst Scientific Officer with Michela Garofalo Scientist SEAHA Studentship: Extracting epidemiological data from collections SEEG Data Archive Manager Senior / Research Associate in Clinical Integration and Image Analysis for Fetal Surgery Senior Analyst Programmer (Business Analysis) Senior Analyst/Programmer Senior Bioinformatician Senior Bioinformatician / Bioinformatician Senior Computational Statistician - Spatial Models Senior Data Acquisition Scientist / Data Acquisition Scientist Senior Data Manager Senior Database Administrator Senior IT Developer Analyst Senior Mathematical Modeller Senior Media Developer Senior Postdoctoral Researcher - Evolutionary and Computational Analysis of Infectious Disease (Phylodynamics) Senior Research Assistant Senior Research Associate Senior Research Associate at Molecular Modelling & Simulation Senior Research Associate in Quantitative Clinical MRI Senior Research Fellow Senior Research Fellow/Research Fellow in Vibration Diagnostics and Prognostics/Digital Signal Processing Senior Research Laboratory Technician Senior Research Technician Senior Software Developer in Bioinformatics Senior Software Engineer / Software Engineer Senior Statistical Epidemiologist Senior Systems Administrator Senior Technician / Demonstrator (UCMK) Senior Web Developer SharePoint Developer Software Developer Software Developer (Bioinformatics) Software Developer (KTP Associate) Software Developer x 2 Software Developer/Programmer Software Developers in e-Learning Software Engineer Software/ Database Developer (KTP Associate) Sports Programme Manager Statistical Geneticist Statistical Programmer/Data Scientist Statistician Statistician/Epidemiologist Student and Enrolment Services Manager SWCAR Information Assistant

# 194 different job titles



# The Software Sustainability Institute



[www.software.ac.uk](http://www.software.ac.uk)

## A national facility for building better software

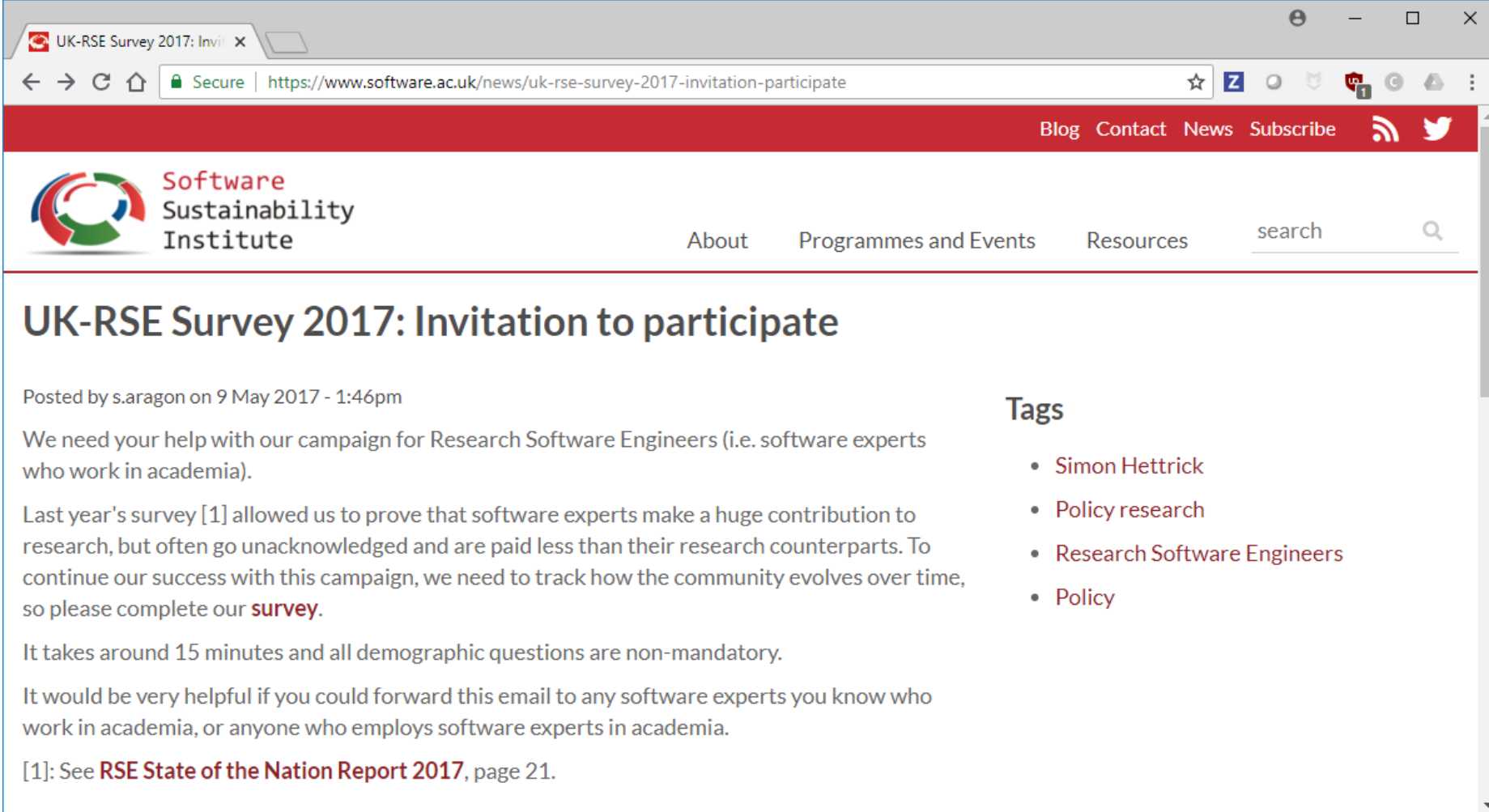
- Better software enables better research
- Software reaches boundaries in its development cycle that prevent improvement, growth and adoption
- Providing the expertise and services needed to negotiate to the next stage
  - Software reviews and refactoring, collaborations to develop your project, guidance and best practice on software development, project management, training, community building, publicity and more...



[info@software.ac.uk](mailto:info@software.ac.uk)

Software Sustainability Institute

# What does an RSE look like?



The screenshot shows a web browser window with the URL <https://www.software.ac.uk/news/uk-rse-survey-2017-invitation-participate>. The page header includes the Software Sustainability Institute logo and navigation links: Blog, Contact, News, Subscribe, and a search bar. The main content area features the article title "UK-RSE Survey 2017: Invitation to participate" and a "Tags" section with the following items: Simon Hettrick, Policy research, Research Software Engineers, and Policy.

UK-RSE Survey 2017: Invitation to participate

Posted by s.aragon on 9 May 2017 - 1:46pm

We need your help with our campaign for Research Software Engineers (i.e. software experts who work in academia).

Last year's survey [1] allowed us to prove that software experts make a huge contribution to research, but often go unacknowledged and are paid less than their research counterparts. To continue our success with this campaign, we need to track how the community evolves over time, so please complete our [survey](#).

It takes around 15 minutes and all demographic questions are non-mandatory.

It would be very helpful if you could forward this email to any software experts you know who work in academia, or anyone who employs software experts in academia.

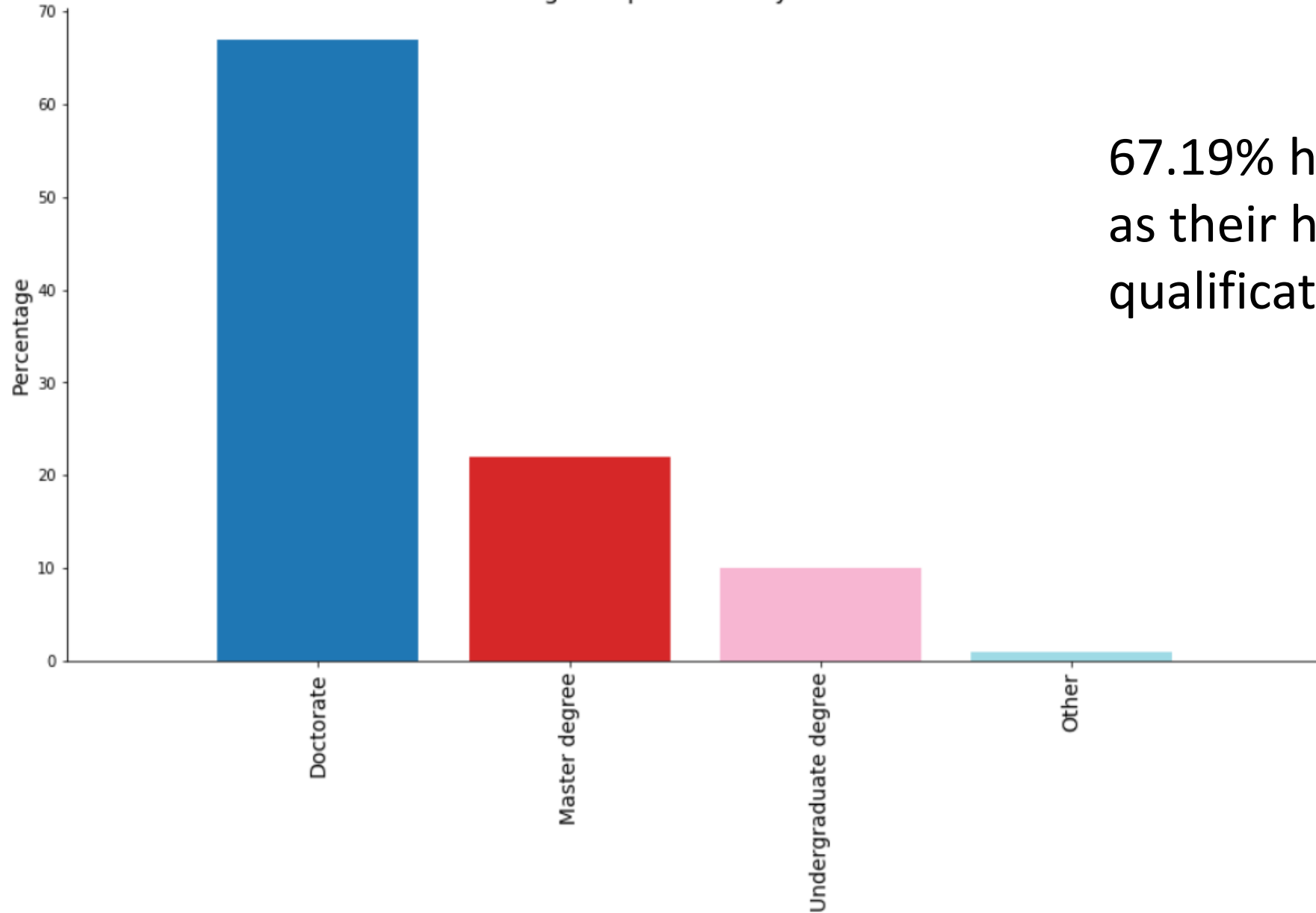
[1]: See [RSE State of the Nation Report 2017](#), page 21.

Tags

- [Simon Hettrick](#)
- [Policy research](#)
- [Research Software Engineers](#)
- [Policy](#)

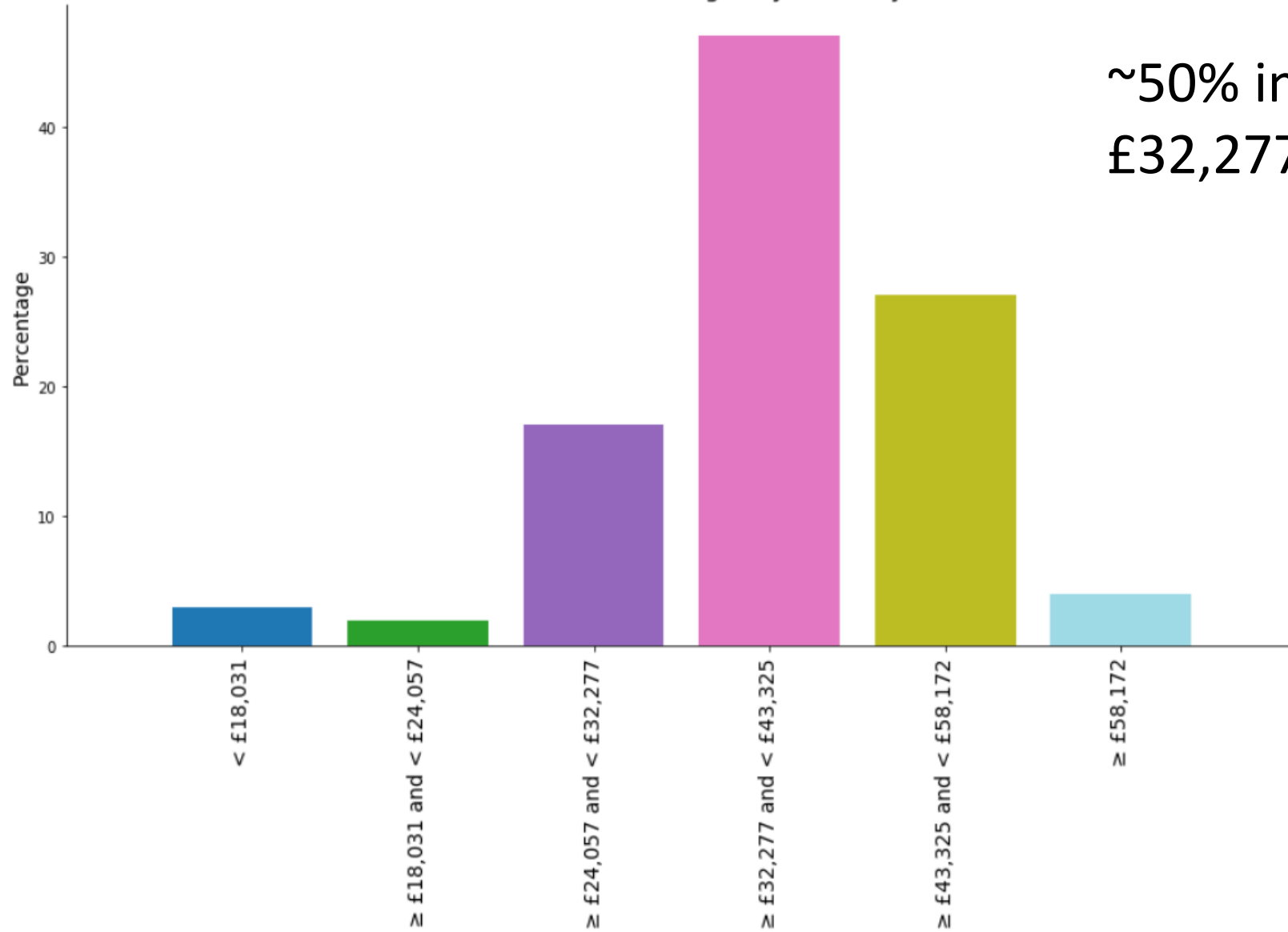
[https://github.com/software saved/international-survey/blob/master/analysis/results\\_uk\\_2017\\_narrative.ipynb](https://github.com/software saved/international-survey/blob/master/analysis/results_uk_2017_narrative.ipynb)

What is the highest qualification you have obtained?



67.19% hold a PhD  
as their highest  
qualification

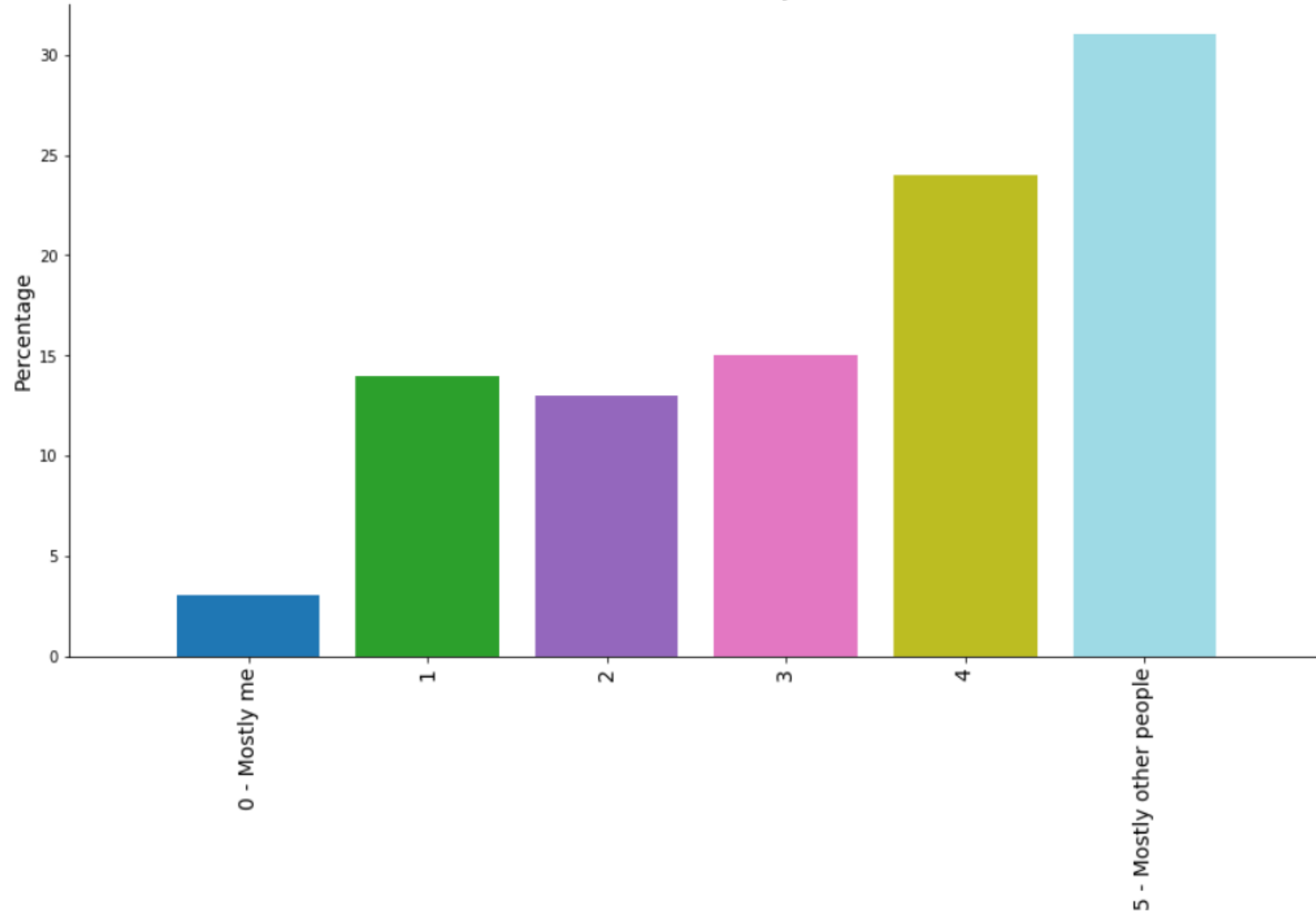
Please select the range of your salary



~50% in salary range of  
£32,277-£43,325

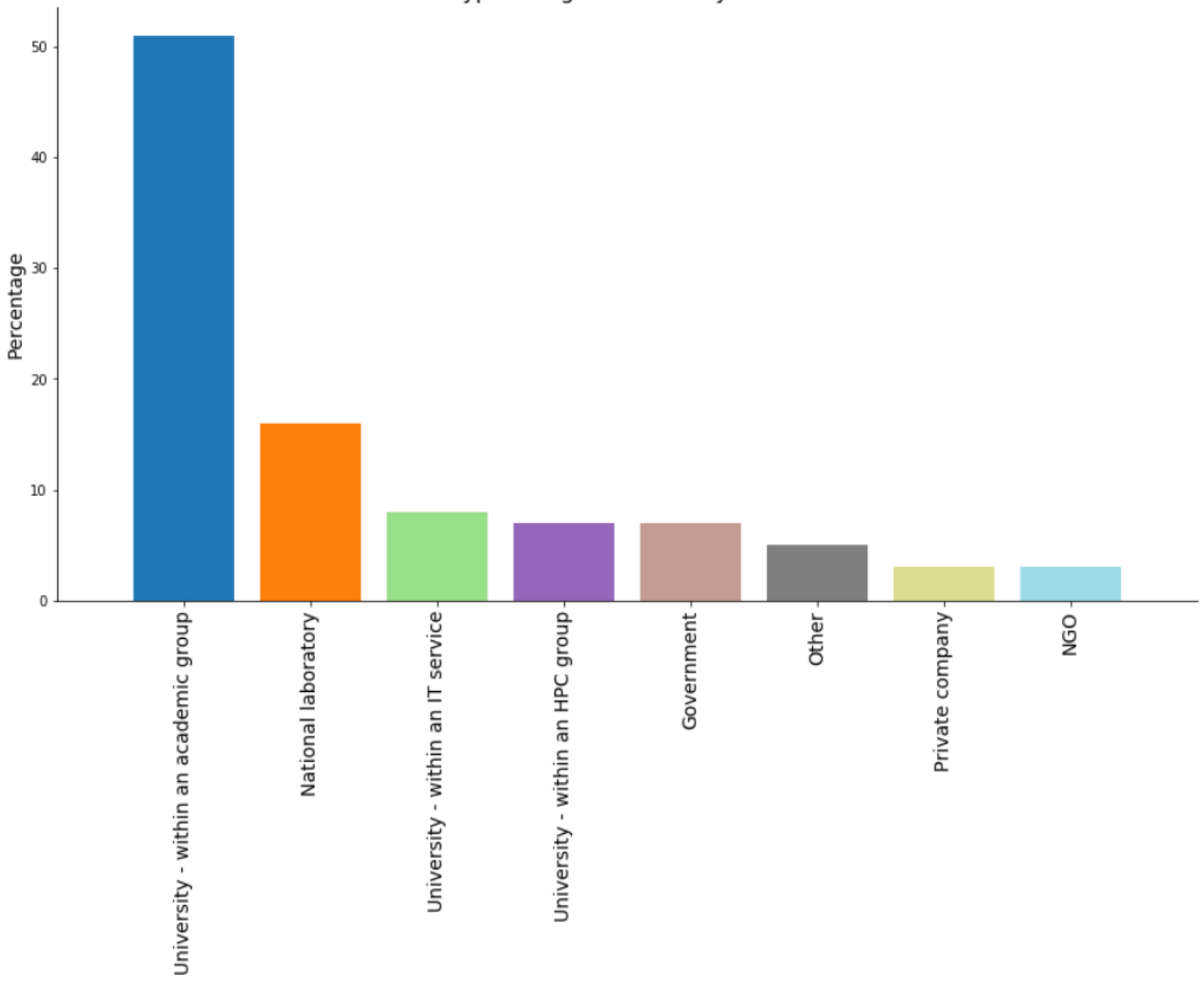


Who uses the code that you write?

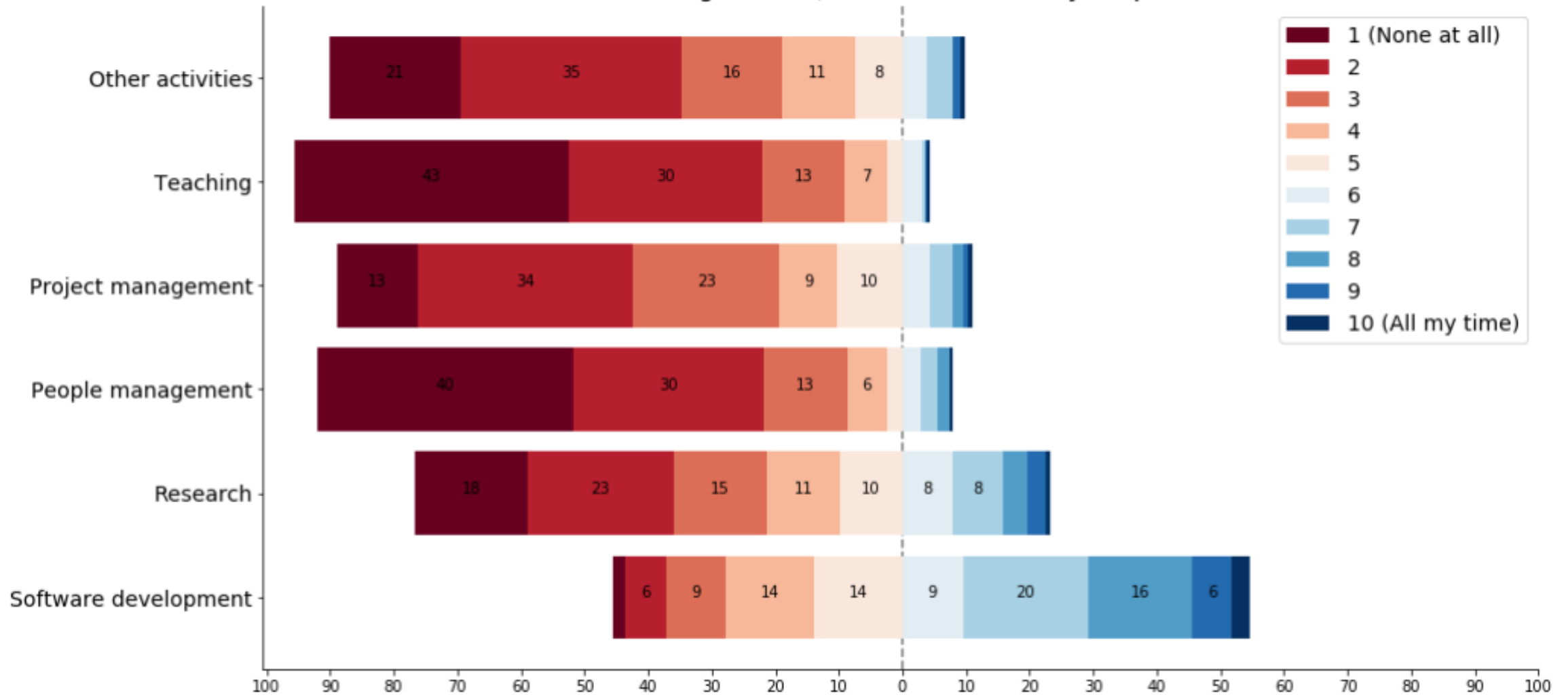


97% write code

What type of organisation do you work for?



In an average month, how much time do you spend on:



# Personal Pathway



# Are you a research software engineer?

- Are you employed to develop software for research?
- Are you spending more time developing software than conducting research?
- Are you employed as a postdoctoral researcher, even though you predominantly work on software development?
- Are you the *person who does computers* in your research group?
- Are you sometimes not named on research papers despite playing a fundamental part in developing the software used to create them?
- Do you lack the metrics needed to progress your academic career, like papers and conference presentations, despite having made a significant contribution through software?

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- RESEARCH
- INNOVATION
- SKILLS
- NEWS, EVENTS AND PUBLICATIONS
- ABOUT US

- Funding >
- Calls >

Home / Funding / Calls / Research Software Engineer (RSE) Fellowships

# Research Software Engineer (RSE) Fellowships

Issue date:	13 May 2015
Opening date:	13 May 2015
Closing date:	21 July 2015 at 16:00
Status:	Closed
Tag:	Invitation for proposals
Related theme:	Research Infrastructure

This call will support Research Software Engineer (RSE) Fellowships for a period of up to five years. The RSE Fellowship describes exceptional individuals with combined expertise in programming and a solid knowledge of the research environment. The Research Software Engineer works with researchers to gain an understanding of the problems they face, and then develops, maintains and extends software to provide the answers.

To support the role of RSEs and establish a cohort in the academic environment, up to £3m is available for this pilot call. Candidates are invited to provide an 'Intent to Submit' document in the first instance to register interest. Full proposals will be subject to a rigorous peer review and sift process before a final selection by interview.

### Email Updates

To sign up for updates or to access your subscriber preferences, please enter your contact information below.

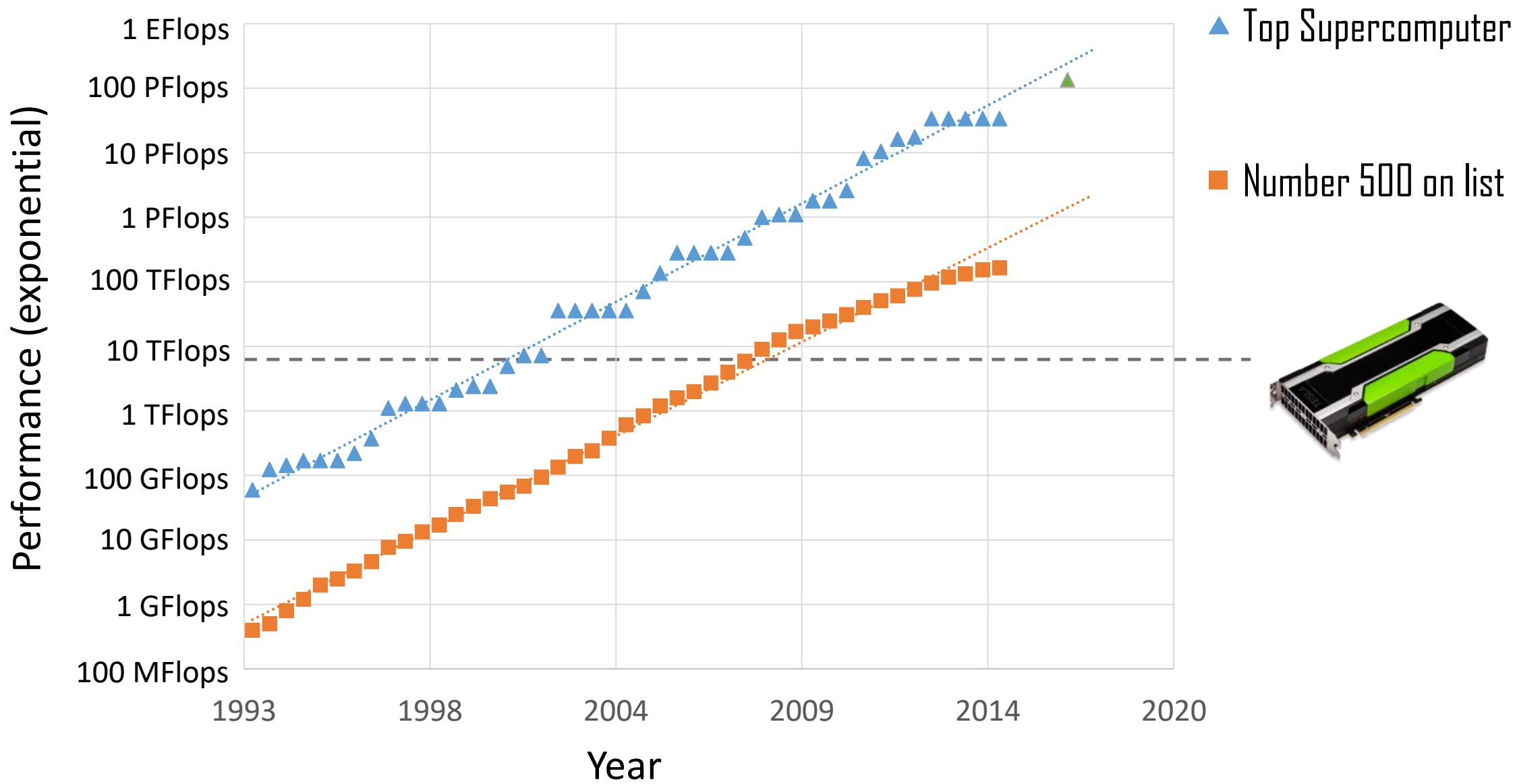
**Email Address\***

**Submit**

- ### Related links
- [UK Community of Research Software Engineers](#)
  - [The role of the Research Software Engineer](#)

### Viewer Download

**PDF** [Adobe Reader](#)



“Facilitate new science and understanding by providing **software, skills** and a **community** to enable the effective use of emerging high performance computing architectures”

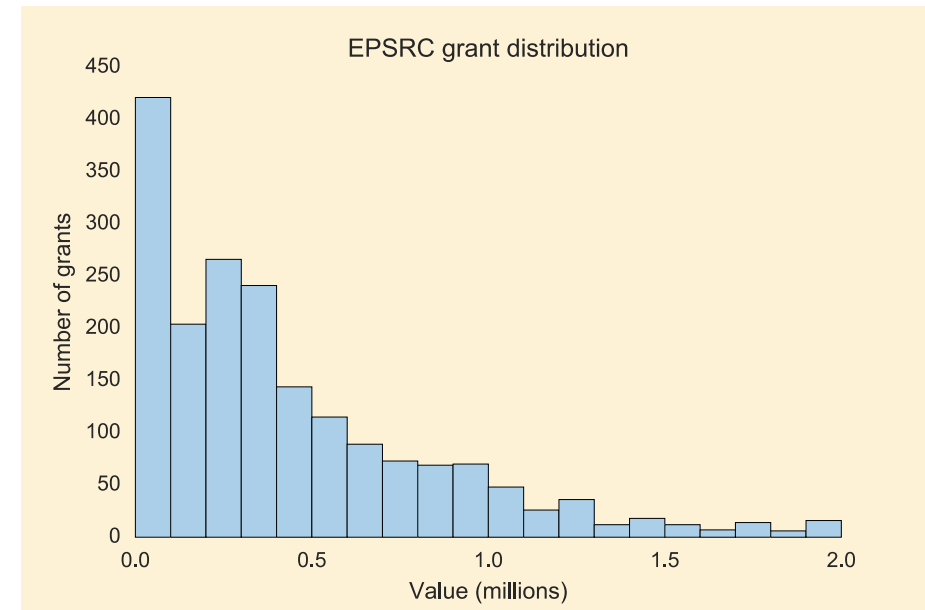
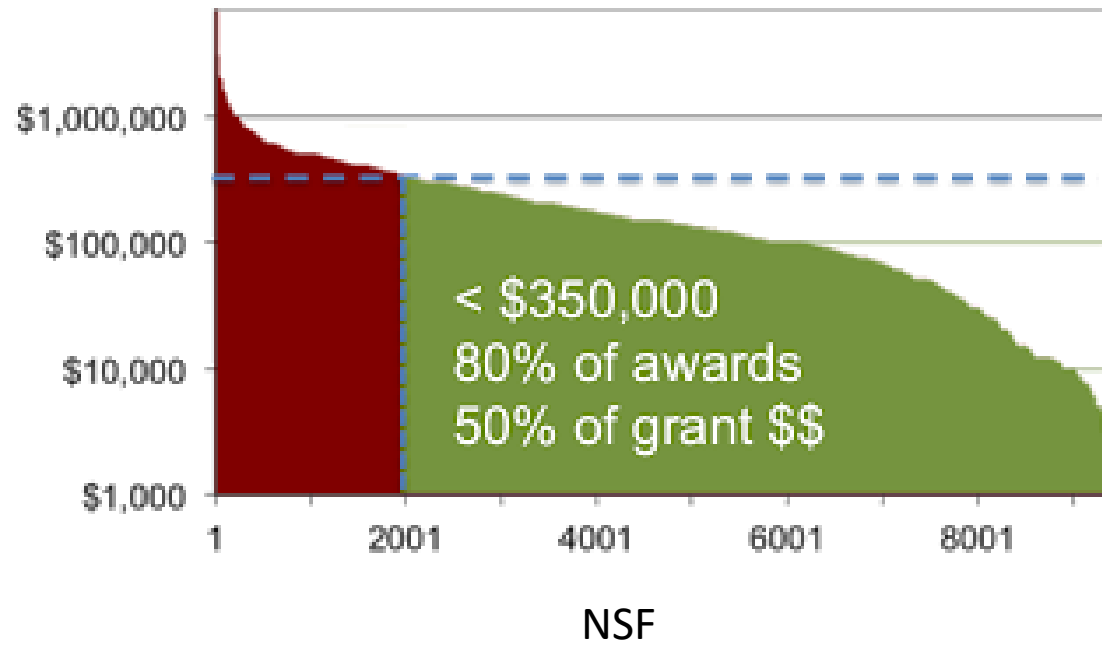


# Computational grants

The screenshot shows a web browser window with the following content:

- Browser Tab:** UKRI GtR
- Address Bar:** UK Research and Innovation [GB] | <https://gtr.ukri.org/projects?ref=BB%2FM025527%2F1>
- Page Header:** UK Research and Innovation (left); Home About this system Release history Contact us (right)
- Section Header:** The Digital Fruit Fly Brain
- Text:** Lead Research Organisation: University of Sheffield; Department Name: Automatic Control and Systems Eng
- Button:** Go back
- Navigation Tabs:** Overview (selected), Organisations, People, Publications, Outcomes
- Section Header:** Abstract
- Text (Abstract):** Several highly ambitious, large-scale, billion-pound research projects that aim to understand the human brain are currently under way. In Europe, The Human Brain Project is focused on accelerating brain research by integrating data available from a multitude of disparate research projects through the development of a multi-scale, multi-level model of the human brain - the 100 billion neurons modelling and simulation challenge. In US, The Brain Initiative aims to reconstruct the full record of neural activity across complete neural circuits - the 100 billion neurons recording challenge. These are clearly huge but worthy challenges that, we believe, can benefit from an understanding of the principles of neural computation of much smaller but sufficiently complex brains.
- Text (Summary):** Funded Value: £530,873; Funded Period: Sep 15 - Nov 18; Funder: BBSRC

# Big computational grants



EPSRC

# The problem with research software in the long tail

- Second to the research
- Lacks resilience and reproducibility
- Invisible
- Not an output



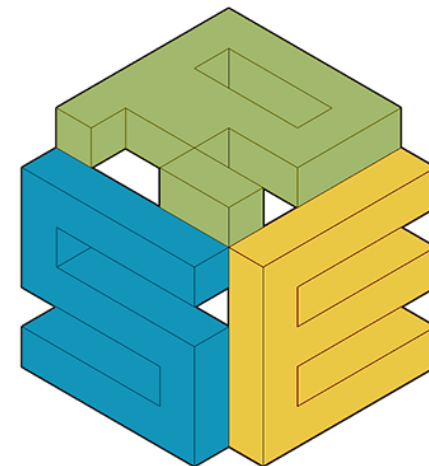
# How to build and RSE group

The screenshot shows a web browser window displaying a news article on the University of Sheffield website. The browser's address bar shows the URL: <https://www.sheffield.ac.uk/faculty/engineering/news/epsrc-1.541506>. The page header includes the University of Sheffield logo and the text 'Engineering at Sheffield'. The main content area features a news article dated 15 January 2016, titled 'Engineering Academics Awarded EPSRC Fellowships'. The article text states: 'Dr Paul Richmond and Dr Mike Croucher in our Department of Computer Science have both been awarded EPSRC Early Career Research Software Engineering (RSE) Fellowships which will commence in March 2016. The RSE Fellowship is a new scheme launched by EPSRC which aims to address increased demand and reliance on software in supporting research. Dr Richmond and Dr Croucher secured 2 of only 7 national awards. This is testament to the importance that the University of Sheffield places on research software. They will be working with a broad range of university researchers, pioneering new initiatives for research software engineering over the course of their five year fellowships. Dr Richmond and Dr Croucher jointly launched the University of Sheffield RSE Initiative to coordinate their highly complementary activities for supporting research and to promote and develop the role of the research software engineer at the University. Researchers working on developing software for research or proving research software support are encouraged to join the initiative. Researchers wanting to work with Dr Richmond or Dr Croucher are invited to contact them through the [Research Software Engineering website](#). The focus of Dr Richmond's fellowship reflects his focus on the development of software to support research, predominantly through the application of emerging hardware architectures to complex systems simulation. Dr Croucher's fellowship aims to provides a bottom-up approach to providing RSE services that is distinctive from, yet complements, the top-down approach provided by the EPSRC-funded Software Sustainability Institute.'

The article includes two portrait photographs of Dr Mike Croucher (left) and Dr Paul Richmond (right). The footer of the page contains navigation links such as 'Contact us', 'Information for visitors', 'Jobs', 'Support us', 'Students' Union', 'Current students', and 'Staff'. It also features social media icons for Facebook, Twitter, Snapchat, YouTube, Instagram, LinkedIn, and YouTube, along with accreditation logos for 'A World Top 100 University', 'Russell Group', and '100 Years of Excellence'. The footer text includes '© 2018 The University of Sheffield' and links for 'Feedback', 'Privacy', 'FOI', and 'Modern slavery statement'.

# RSE Sheffield - Aims

- Improve research software across the university
- Top down and bottom up support (short and long tail)
- Establishing a career path
- Collaboration! - *Not second rate citizens of science*



Research  
Software  
Engineering  
**Sheffield.**



# RSE Sheffield - 2017



# How to engage (FATPOU)

"I am a first-year PhD student in the Department of Materials Science and Engineering at the University of Sheffield, working on metal additive manufacture using a pulsed laser system. Part of my research required a Matlab model to calculate the temperature field and therefore the size and shape of the melt pool created by the laser, which was taking over 2 hours to run. Mike was able to take my model and **make it run 800x faster** by taking a combined analytical and numerical approach to the integration stages. He carried out error-checking between the original and improved versions, and identified some small differences, which he then sanity-checked against a third calculation approach to reach a preferred solution. The results were available within a week of my initial request and Mike organised a face-to-face meeting to go through the changes to the program and make sure it ran successfully on my computer. Thank you!" - **Felicity Freeman, Material Science, University of Sheffield.**

"The FLAME GPU software is important in my research as it has allowed me to implement a model that has a scale that would have been infeasible to run before and in addition **reduced run-times by over 95%** when migrating from FLAME CPU on my personal PC. Migration of the model from standard FLAME to FLAME GPU was very simple due to the abstraction of the GPU elements and thanks to the help of Dr Richmond with both debugging and optimization" **Dr David Rhodes (Research Associate, Department of Cardiovascular Science, University of Sheffield)**

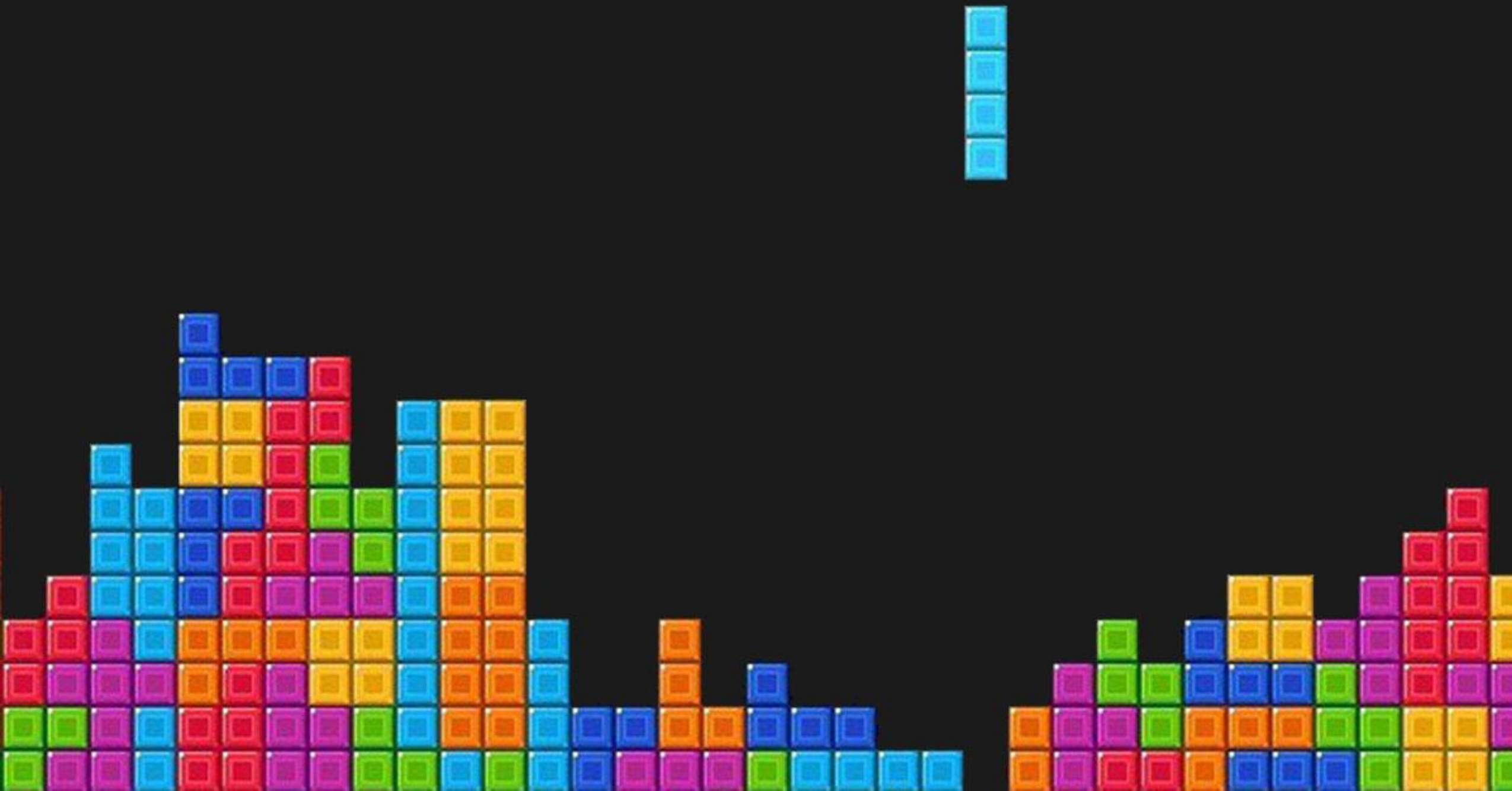
Err, Who's paying for this?



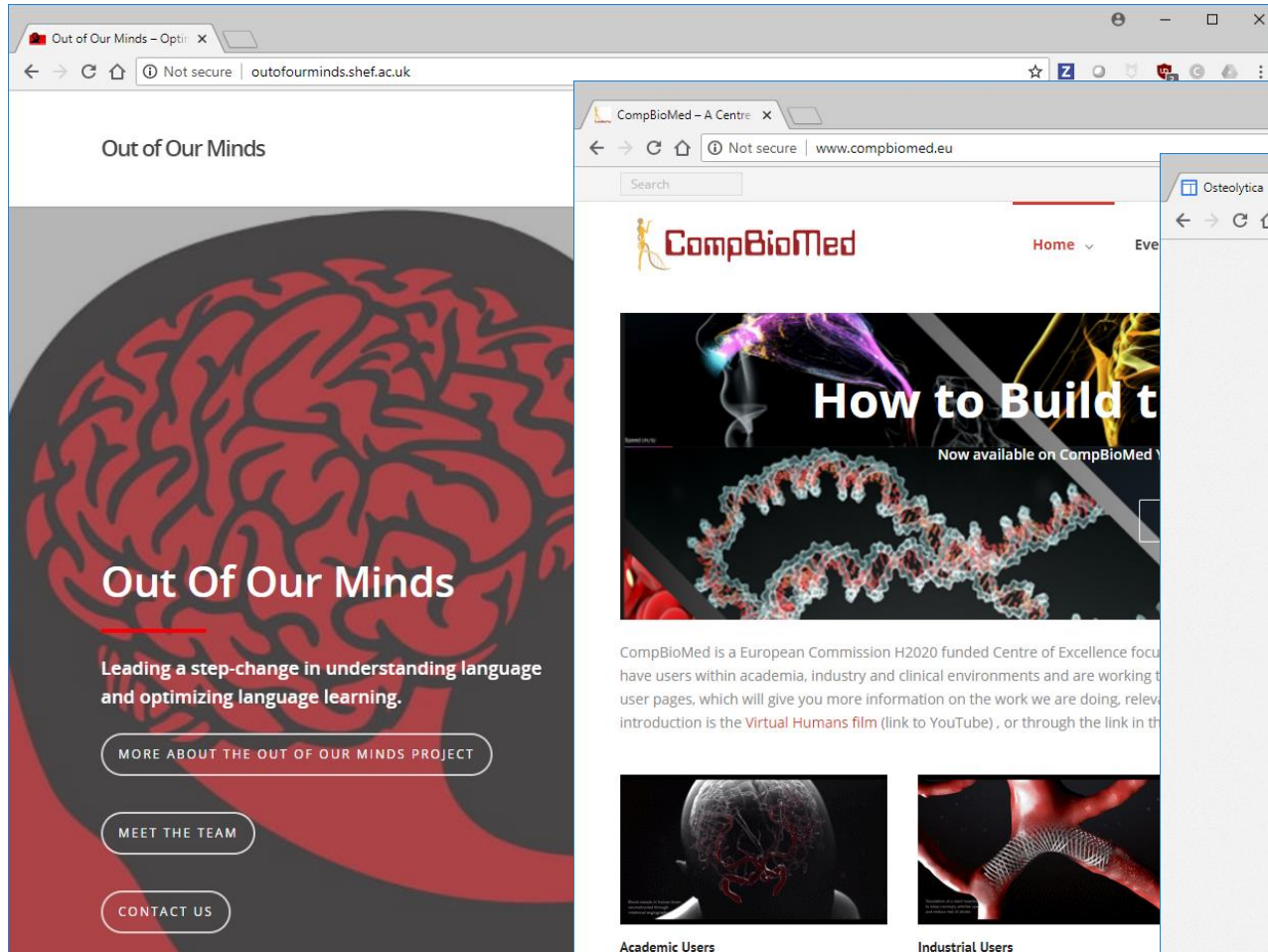


# Fractional RSE Grant support

- Days to years of support
- Align with university business as usual
- **Requires risk to be under-written**



# Fractional RSE support



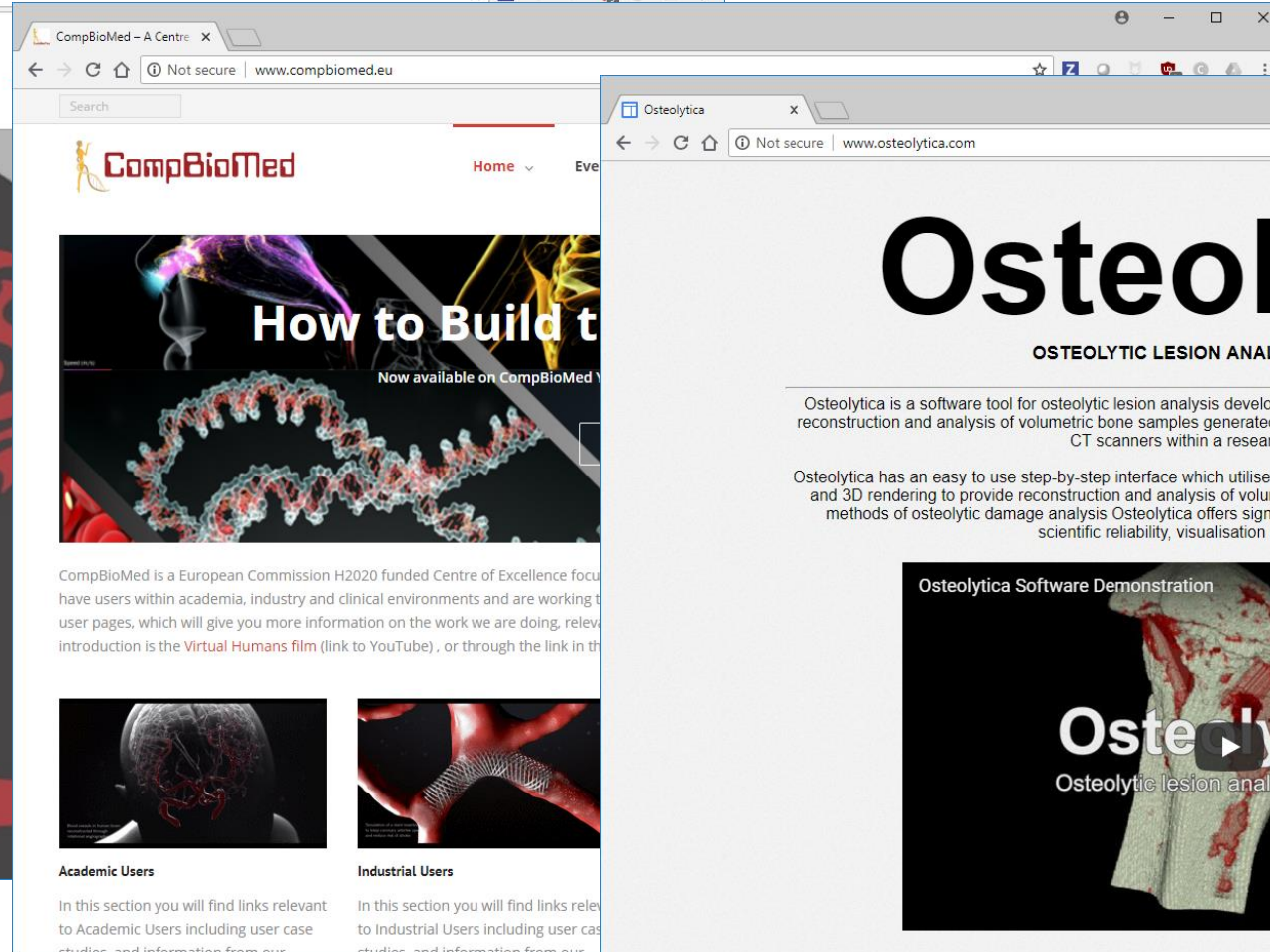
Out of Our Minds

Leading a step-change in understanding language and optimizing language learning.

MORE ABOUT THE OUT OF OUR MINDS PROJECT

MEET THE TEAM

CONTACT US



CompBioMed

## How to Build t

Now available on CompBioMed

CompBioMed is a European Commission H2020 funded Centre of Excellence focus on... have users within academia, industry and clinical environments and are working to... user pages, which will give you more information on the work we are doing, relevant... introduction is the Virtual Humans film (link to YouTube), or through the link in the...

**Academic Users**

In this section you will find links relevant to Academic Users including user case studies, and information from our...

**Industrial Users**

In this section you will find links relevant to Industrial Users including user case studies, and information from our...



# Osteolytica

## OSTEOLYTIC LESION ANALYSIS SOFTWARE

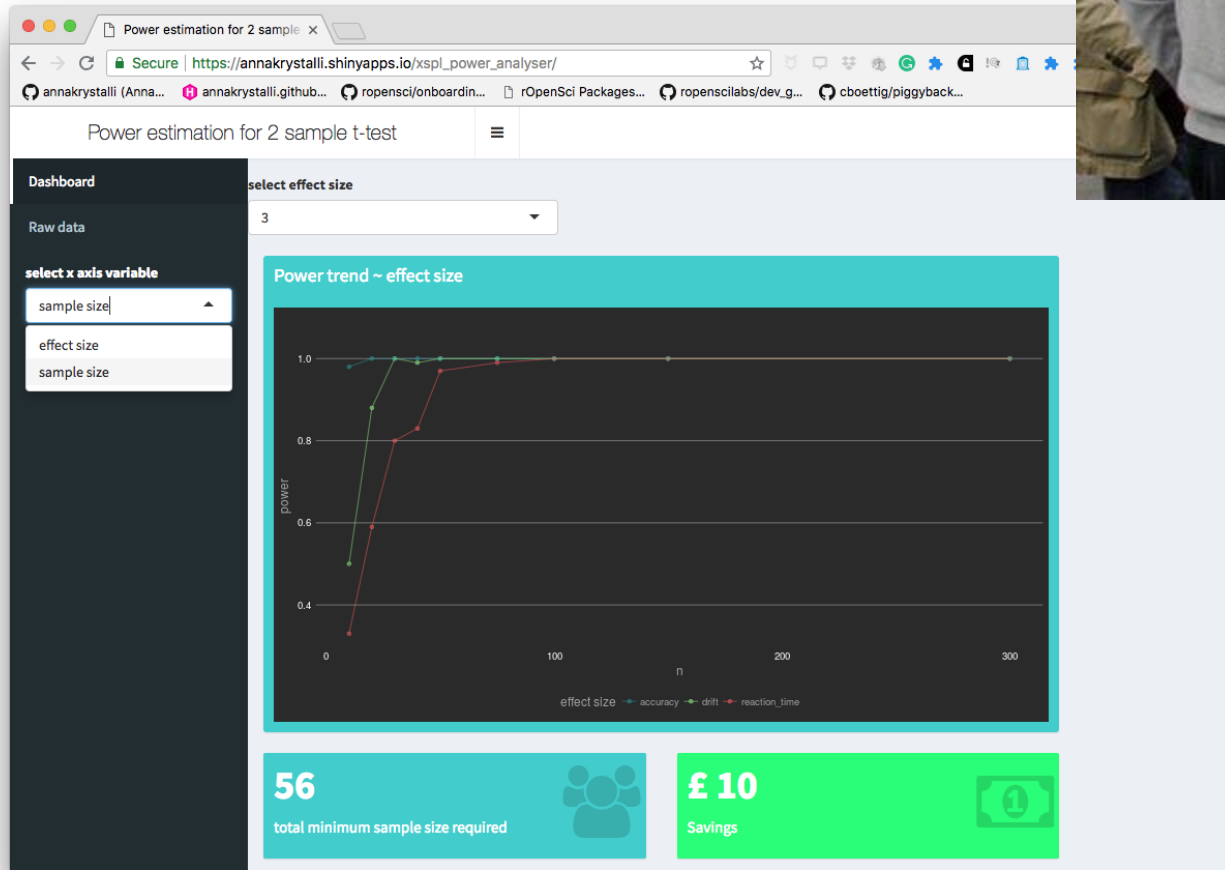
Osteolytica is a software tool for osteolytic lesion analysis developed at the University of Sheffield. It specialises in the reconstruction and analysis of volumetric bone samples generated by murine myeloma studies and obtained from Micro CT scanners within a research environment.

Osteolytica has an easy to use step-by-step interface which utilises novel graphic cards acceleration (parallel computing) and 3D rendering to provide reconstruction and analysis of volumetric samples within minutes. In contrast to manual methods of osteolytic damage analysis Osteolytica offers significant improvements with respect to the accuracy, scientific reliability, visualisation and time investment.

### Osteolytica Software Demonstration

Osteolytica  
Osteolytic lesion analysis software

# RSE Service



*“An exciting opportunity to acquire external funding via one of our collaborators has opened up. Unfortunately, the deadline for the funding application is next Monday.....”*  
– One of our collaborators (unnamed)



# Institutional Buy In



Don't underestimate the politics..



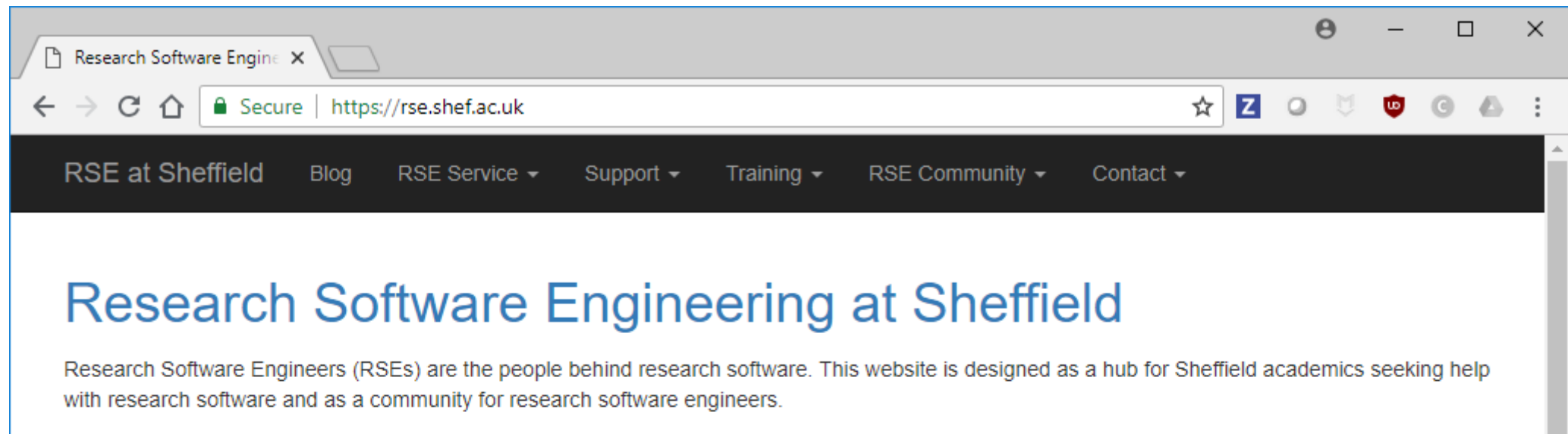
# Pillars of What we do

Service

Support

Training

Community





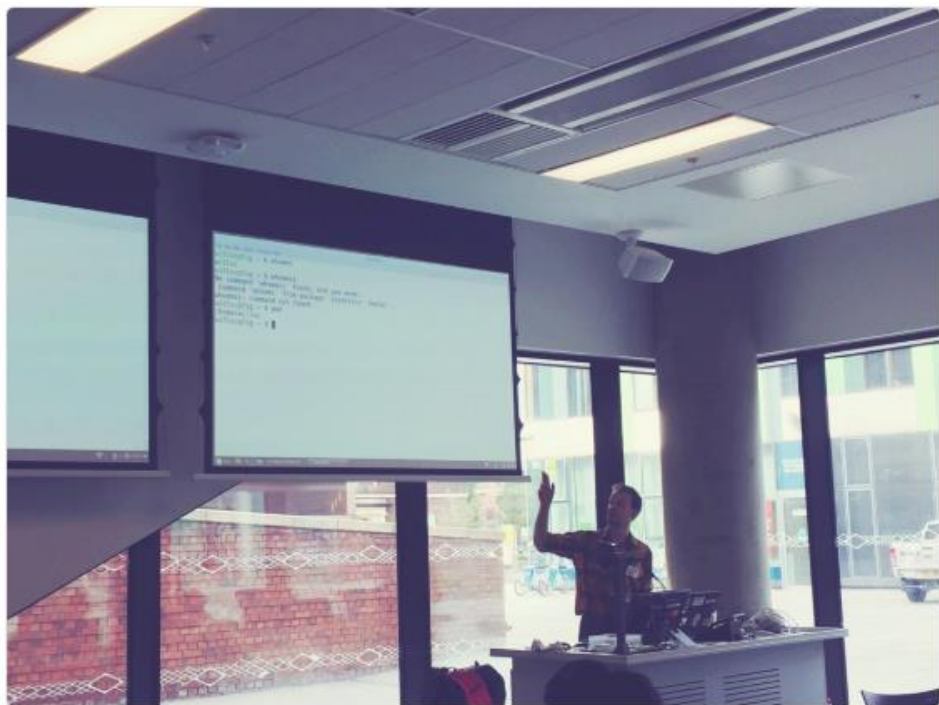
**annakrystalli**  
@annakrystalli

Following



Today is the day!!

@WillFurnass kicking off the first  
@RSE\_Sheffield @swcarpentry workshop with  
a session on UNIX!



1:43 AM - 16 Aug 2017

5 Retweets 18 Likes



5



18

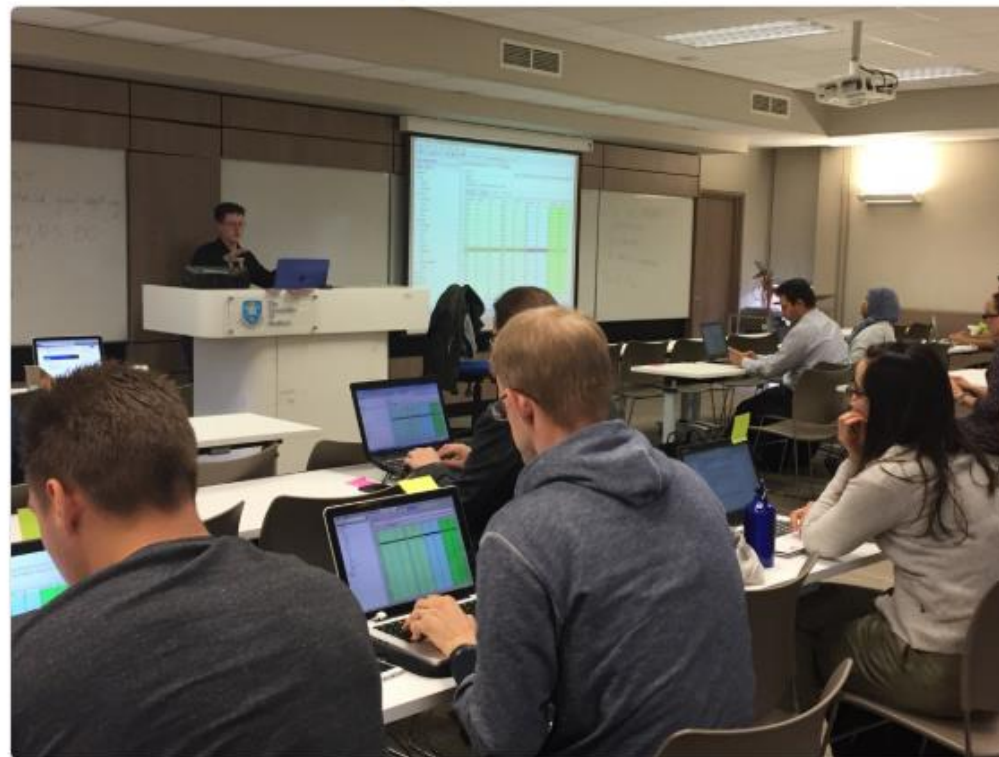


**annakrystalli**  
@annakrystalli

Following



Sheffield @datacarpentry continues with  
@PhdGeek on #sql



6:09 AM - 27 Jul 2017

2 Retweets 6 Likes



2



6





# Training

 **Alison B Lowndes** ✨  
@AlisonBLowndes

.@gpu\_mondus talks @GPUCon #deeplearning class at #ENSIAS @Missifos @b\_Haajar @dianan @Panzerfrank #dlenias



9:27 AM - 27 Oct 2016

2 Retweets 3 Likes



 **Mike Croucher**  
@walkingrandomly

With @WillFurnass teaching @ researchers about high perform using our Jupyterhub instance i our Sun Grid Engine high perfo computing cluster as part of @



9:11 AM - 12 Apr 2018

2 Retweets 5 Likes



 **Paul Richmond**  
@gpu\_mondus

.@nvidia Deep Learning training a @sheffielduni organised by @RSE



1:51 AM - 27 Jul 2016

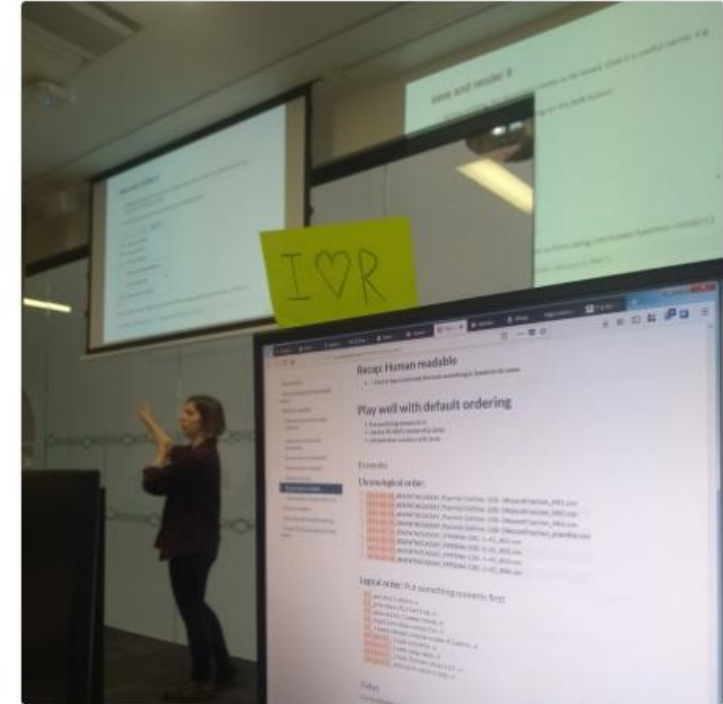
2 Retweets 4 Likes



 **Tom Sinclair**  
@TomMSinc

Follow

Learning how to keeping my data and R code tidy with @annakrystalli @ACCE\_DTP data management #Rstats #IheartR

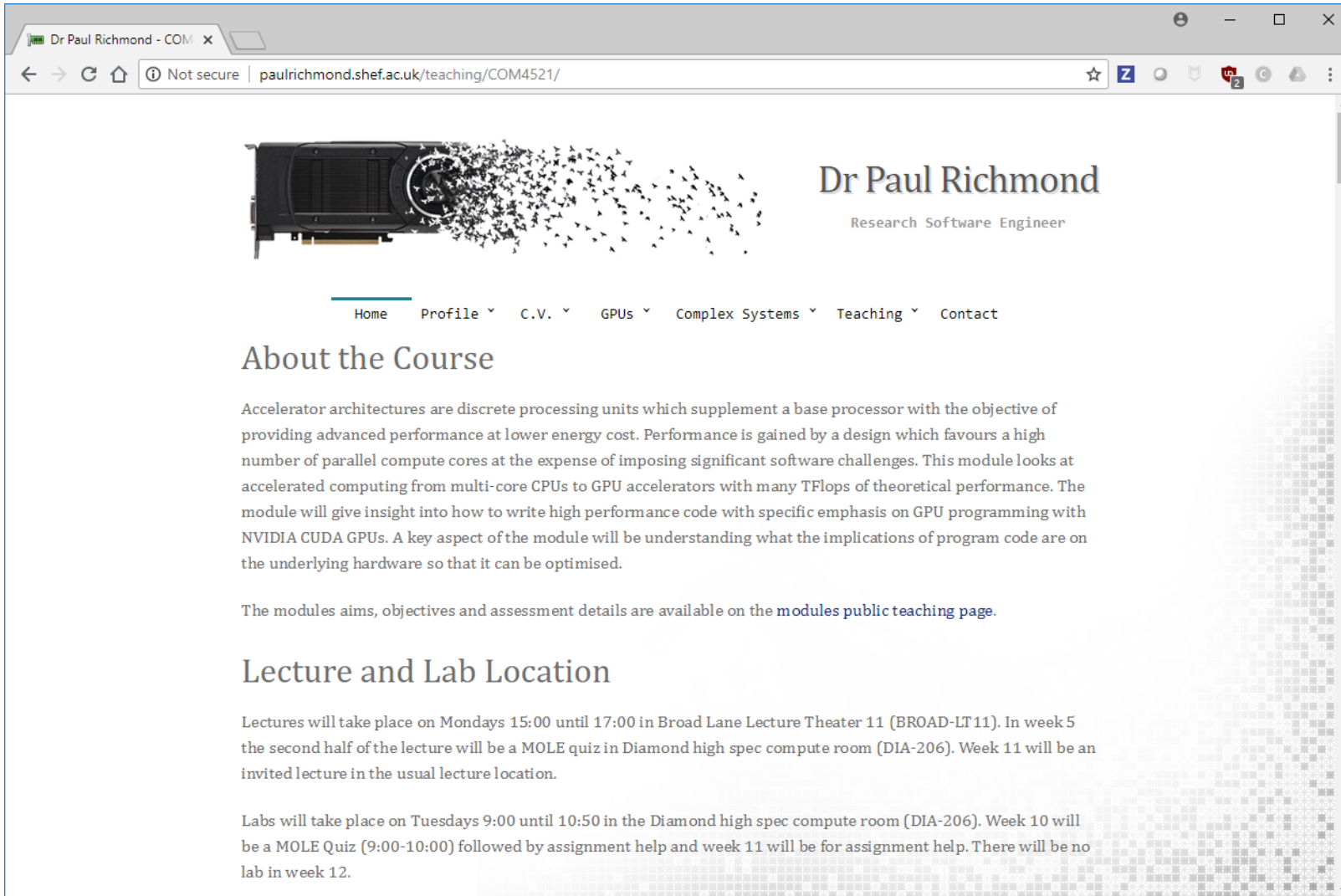


2:13 AM - 2 May 2018

7 Retweets 11 Likes



# Traditional University Teaching



Dr Paul Richmond  
Research Software Engineer

Home Profile C.V. GPUs Complex Systems Teaching Contact

## About the Course

Accelerator architectures are discrete processing units which supplement a base processor with the objective of providing advanced performance at lower energy cost. Performance is gained by a design which favours a high number of parallel compute cores at the expense of imposing significant software challenges. This module looks at accelerated computing from multi-core CPUs to GPU accelerators with many TFlops of theoretical performance. The module will give insight into how to write high performance code with specific emphasis on GPU programming with NVIDIA CUDA GPUs. A key aspect of the module will be understanding what the implications of program code are on the underlying hardware so that it can be optimised.

The modules aims, objectives and assessment details are available on the [modules public teaching page](#).

## Lecture and Lab Location

Lectures will take place on Mondays 15:00 until 17:00 in Broad Lane Lecture Theater 11 (BROAD-LT11). In week 5 the second half of the lecture will be a MOLE quiz in Diamond high spec compute room (DIA-206). Week 11 will be an invited lecture in the usual lecture location.

Labs will take place on Tuesdays 9:00 until 10:50 in the Diamond high spec compute room (DIA-206). Week 10 will be a MOLE Quiz (9:00-10:00) followed by assignment help and week 11 will be for assignment help. There will be no lab in week 12.

# Influence Policy

*“Growing the U.K.’s AI economy is the most important of four “Grand Challenges” which will improve people’s lives and the country’s productivity, according to the U.K. Department for Business, Energy & Industrial Strategy” - Professor Birgitte Anderson, CEO and co-founder of BIC.*



## **BUILD YOUR OWN NEURAL NETWORK**

**28 FEBRUARY 2018**  
**10:30 – 11:30AM**

**ROOM C,**  
**1 PARLIAMENT STREET**

FOR MPS, PEERS & STAFF

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JOIN APPG AI CHAIRS **STEPHEN METCALFE** AND **LORD CLEMENT-JONES** FOR  
AN INTERACTIVE, ONE-HOUR WORKSHOP

ENGAGE DIRECTLY WITH ARTIFICIAL INTELLIGENCE (AI)

GET UP TO SPEED ON RECENT ADVANCES IN AI AND UK POSITIONING

RECEIVE TANGIBLE OUTPUT TO USE IN MP CONSTITUENCIES AND COMMUNITIES

Workshop led by  
**NVIDIA**

With use cases from  
**UCL Hospital Neurology Department,**  
**FiveAI (Autonomous Vehicles)**  
**Milton Keynes City Council**

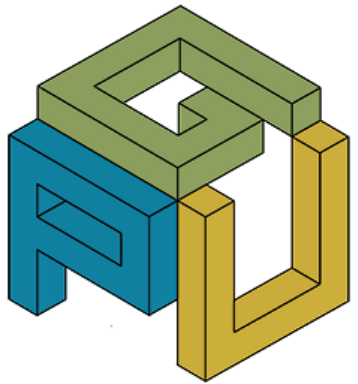
**STUART WILSON, AI & SUPERCOMPUTING DIRECTOR, NVIDIA**

"Artificial Intelligence has risen from science fiction to reality in just six years by taking the Artificial Neural Network - an algorithm considered a plaything for decades - and subjecting it to massive amounts of data & computing power and letting the software write itself! The underlying capability to automatically learn from the data it is subjected to has allowed neural networks to out-perform humans at a wide variety of tasks, and that list of competences is only growing in number.

We believe that this technology genuinely represents a new Industrial Revolution. It is of national importance that policy makers understand the core components, capabilities and limitations surrounding the modern AI boom. "



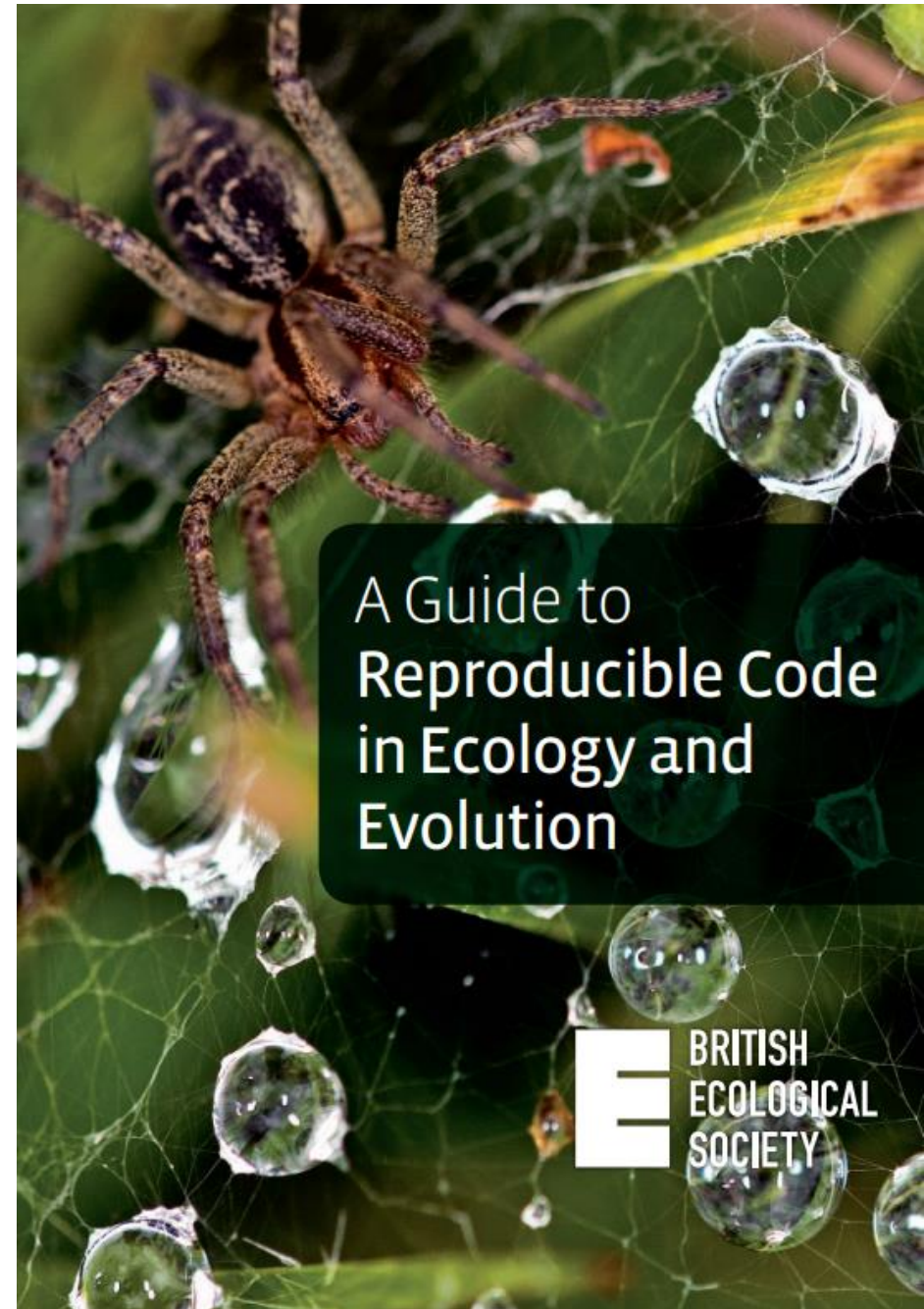
# R OpenSci



**GPU  
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The  
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Sheffield.



A Guide to  
Reproducible Code  
in Ecology and  
Evolution

**E** BRITISH  
ECOLOGICAL  
SOCIETY

# The code clinic

*"Stop wasting valuable time trying to fix issues on your own."*

# Coffee and Cake (and seminars)



# RSE Sheffield 2018



+2 more...



Research Software Group x

Secure | <https://www.google.com/maps/d/u/0/viewer?ll=53.165864452687316%2C-2.3390940671874887&hl=en&z=7&mid=1JCxzH9YDe16TbodwwSr7yvwz8tAC4t2D>

Research Software Gro... 🔍 ⋮

- Alan Turing Institute
- University of Bath
- University of Birmingham
- University of Bristol
- University of Cambridge
- University of Cardiff
- UKAEA
- Imperial College London
- Francis Crick Institute
- Kings College London
- University of Leeds
- University of Leicester
- The University of Manchester
- Newcastle University
- Open University
- The University of Sheffield
- University of Southampton
- University College London
- University of Warwick
- Queen Mary University
- EPCC
- Daresbury Laboratory
- Oxford eResearch Centre
- Software Engineering Support Centre

The map displays the United Kingdom and Ireland. Numerous blue location pins are placed across the country, corresponding to the institutions listed in the sidebar. The pins are concentrated in the southern and central regions, particularly around London, the Midlands, and the South East. Some pins are orange, indicating specific locations like EPCC, Daresbury Laboratory, and Oxford eResearch Centre. The map includes major cities, roads, and geographical features. The text 'United Kingdom' is prominently displayed in the center of the map.

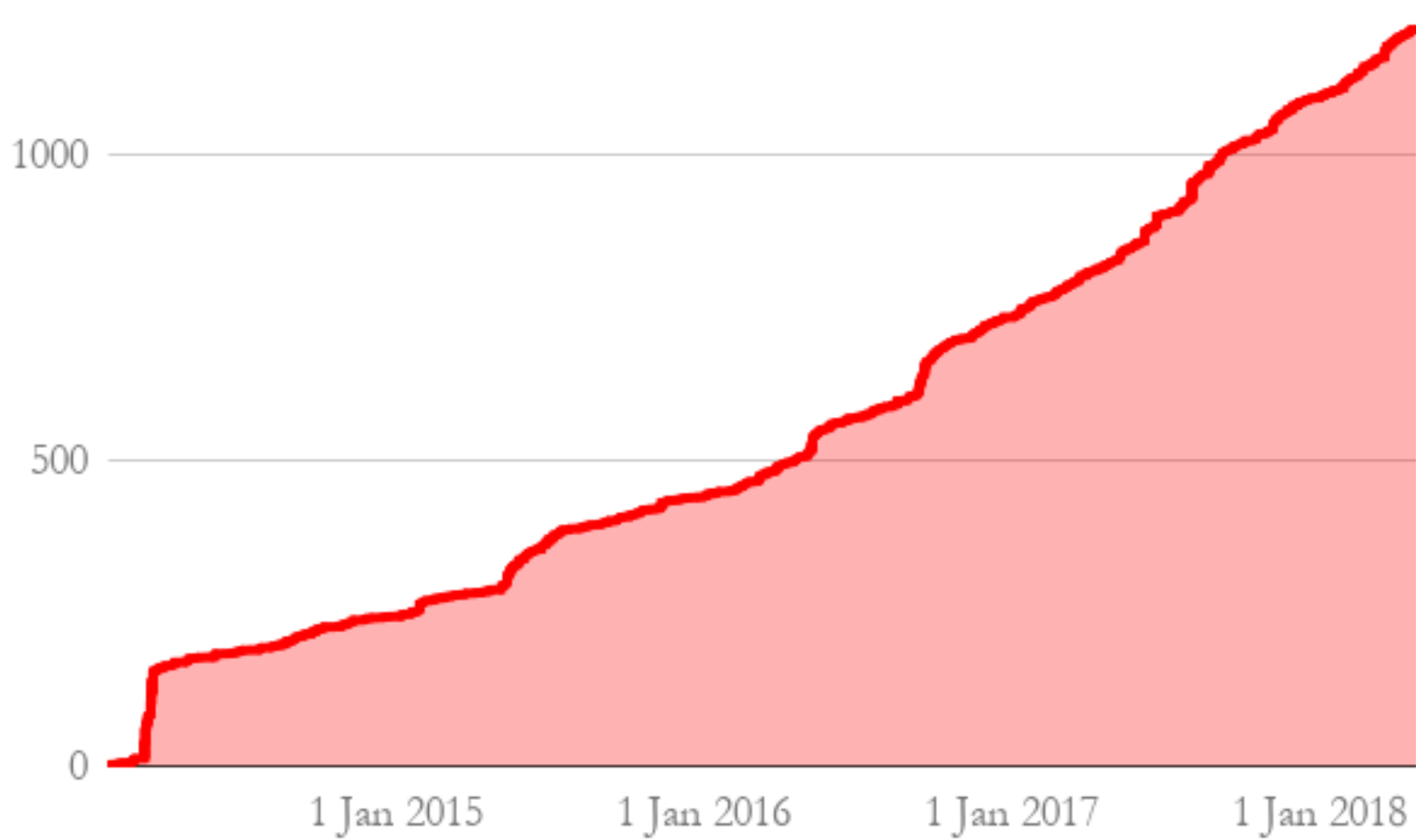
Map data ©2018 GeoBasis-DE/BKG (©2009), Google Terms 50 km



# UK RSE Association

- [www.rse.ac.uk](http://www.rse.ac.uk)
- @ResearchSoftEng





1211 members (29<sup>th</sup> April 2018)



INTERACTIVE WORLD

The logo for 'Interactive World' is located on the right side of the image. It features a stylized white figure holding a globe, positioned above the text 'INTERACTIVE WORLD' in a white, sans-serif font. Below the text are several blue line-art illustrations of mechanical gears and a hand holding a tablet device.



Research Software Engine x

UK Research and Innovation [GB] | <https://epsrc.ukri.org/funding/calls/research-software-engineer-fellowships-ii/>

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**EPSRC**  
Engineering and Physical Sciences  
Research Council

FUNDING RESEARCH INNOVATION SKILLS NEWS

Funding > Calls > Feedback to applicants following the outline panel

Home / Funding / Calls / Research Software Engineer Fellowships II

# Research Software Engineer Fellowships II

Issue date:	21 April 2017
Opening date:	30 June 2017
Closing date:	23 August 2017 at 16:00
Status:	Closed
Tag:	Invitation for proposals
Related theme:	Research Infrastructure


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BBSRC encourage inclusion of Research Software Engineers into new grant proposals

Posted by s.aragon on 2 March 2017 - 9:00am

By **Mike Croucher**, Research Software Engineer at University of Sheffield and Software Sustainability Institute Fellow

*Reposted with the author's permission. This article was originally published in [Walking Randomly](#).*



RSE Conference 2016, Image by Simon Hettrick

The job title 'Research Software Engineer' (RSE) wasn't really a thing until 2012 when the term was invented in a **Software Sustainability Institute collaborations workshop**. Of course, there were lots of people doing Research Software Engineering before then but we had around 200 different job titles, varying degrees of support and career options tended to look pretty bleak. A lot has happened since then including the **2016 EPSRC RSE Fellows**, the **first international RSE conference** and a **host of University-RSE groups** popping up all over the country.

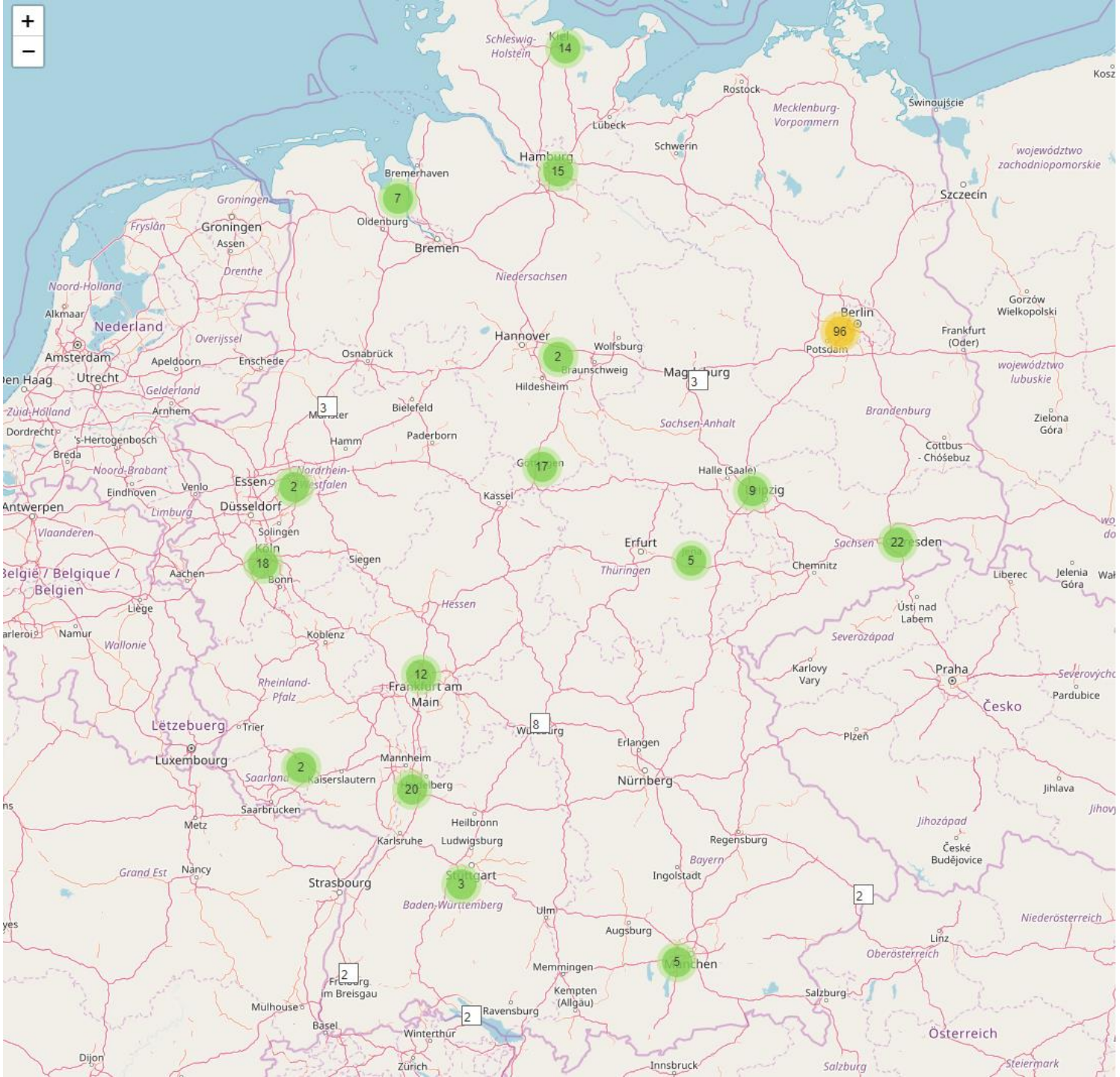
Tags:

- Mike Croucher
- RSE community
- Research Software Engineers
- BBSRC
- Policy
- Community

# de-RSE

“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.” - Martin Hammitzsch, GFZ Potsdam, Stephan Janosch, MPI CBG & Frank Loeffler, Louisiana State University

<http://www.de-rse.org/>



# What next?

- Critical mass around RSE
- Lobbying funders and your institutions
- Share experience of group formation
- Career Paths

[www.rse.ac.uk](http://www.rse.ac.uk)

[www.software.ac.uk](http://www.software.ac.uk)

[www.de-rse.org](http://www.de-rse.org)

