Data Science Campus

Big Data Training in a Post-Covid Environment

6th International Conference on Big Data for Offcial Statistics
2nd September 2020

David Johnson, Deputy Director
ONS Data Science Campus
@new_to_dave

The Data Science Campus

> “It's a fundamental belief that **data science** is just what many of us have called **statistics** for a very long time. It requires rigour, it requires really clear thinking, it requires absolute accuracy and it requires an understanding of error.”

- Professor Sir Ian Diamond
National Statistician

Data Science

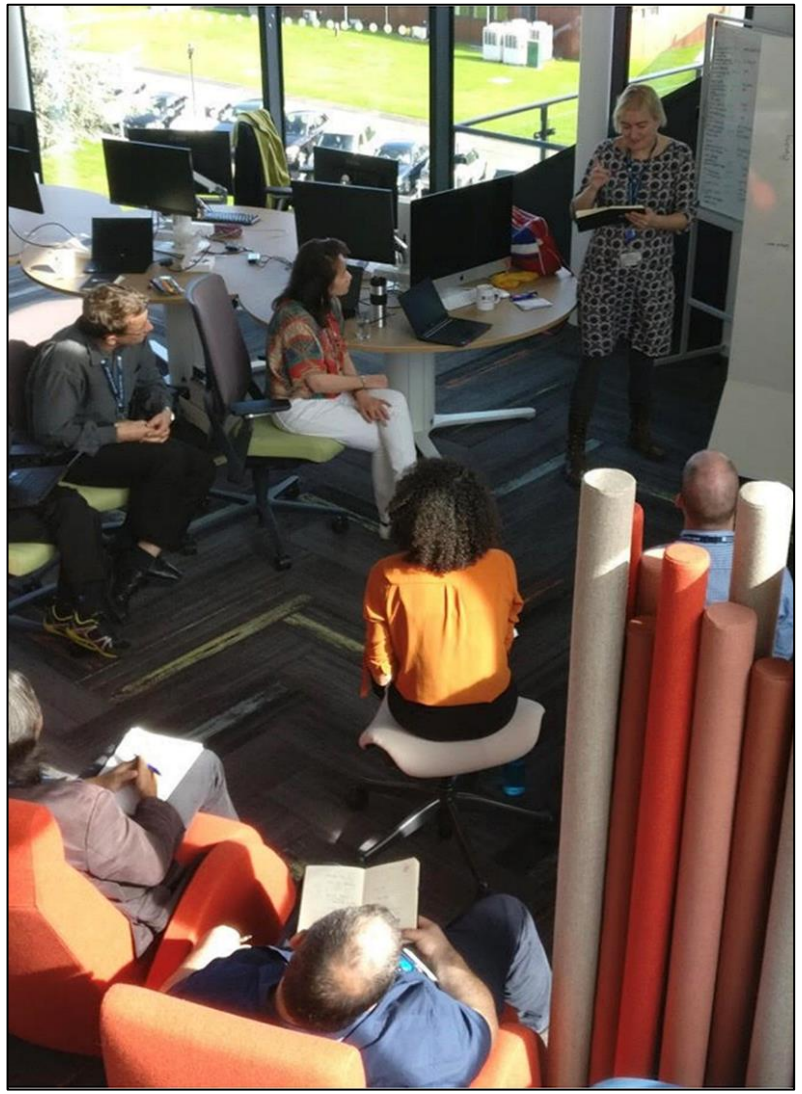
Applying the tools, methods and practices of the digital and data age to create new understanding and improve decision-making

Purpose

The Campus applies data science, and builds skills, for public good across the UK and internationally

Mission

The Campus works at the frontier of data science and AI – building skills and applying tools, methods and practices – to create new understanding which improves decision-making for public good



Data Science Campus, Newport, October 2017

Academic and Vocational Programmes

Research Partnerships

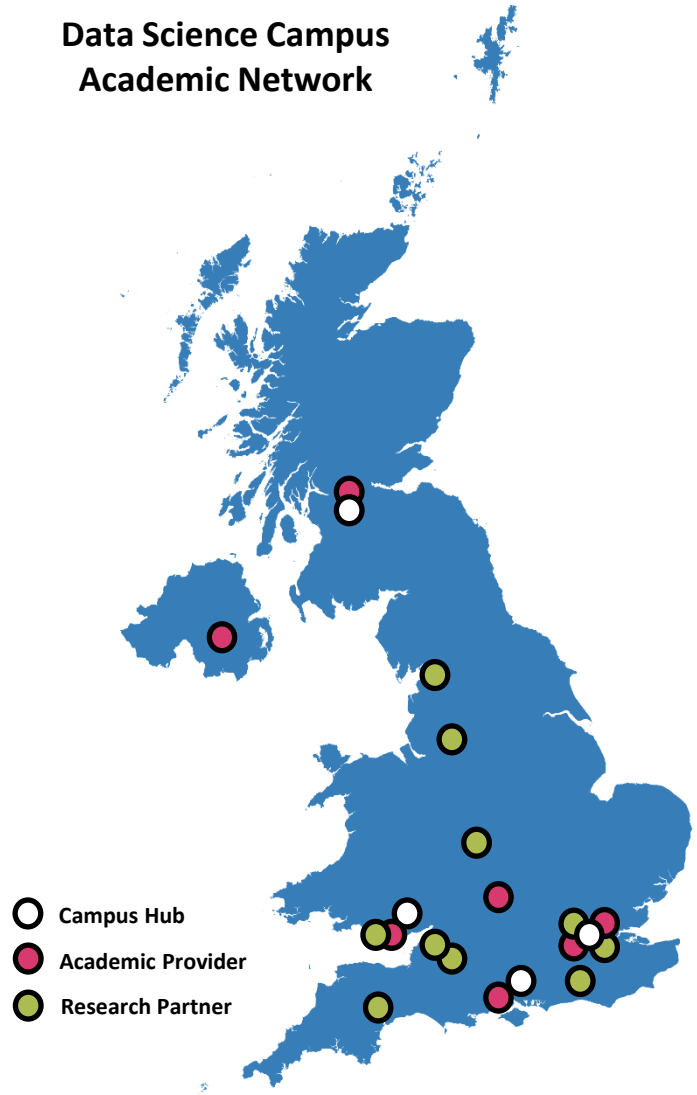
- The Data Science Campus works with 7 university Centres for Doctoral Training in AI, Data Science, Statistics and Physics, with collaborative research, PhD mentoring and three-month industry placements at the Campus for both PhD and MSc students.
- A collaborative partnership with The Alan Turing Institute, focused primarily on economic data science, and a *Data Science for Public Good* joint PhD programme.
- Direct partnerships with Cardiff University, Lancaster University, University of Manchester and University of Warwick that facilitate collaborative research, PhD co-funding, MSc and PhD placements and academic staff secondments.

Academic Partnerships

- Degree Level Apprenticeship in Data Science: National Framework development in England and Wales led by the Campus, The first three-year programme launched in 2019 building on 2 successful Campus cohorts of 2-year Apprenticeships in Data Analytics.
- MSc in Data Analytics for Government: 2 year part-time MSc in Data Science and Statistics for government analysts, delivered by five universities across the UK.

The Alan Turing Institute · University of Bath · University of Bristol · Cardiff University / Prifysgol Caerdydd · Cardiff Metropolitan University / Prifysgol Metropolitan Caerdydd · DISCnet · University of Exeter · University of Glasgow · Lancaster University · Manchester 1824 The University of Manchester · Oxford Brookes University · Queen's University Belfast · University of Southampton · UCL · Warwick

Data Science Campus Academic Network



Training and Mentoring Programmes

Data Science Faculty

- In-house training unit delivering operational courses focused on up-skilling government analysts in data science skills, from fundamentals of computer science and programming (R, Python) to data science (Machine Learning, NLP etc) and data engineering.
- 5 Data Science Lecturers develop and deliver a core AI and data science curriculum for use across government.

Mentoring Programmes

- Accelerator programme: 12-week cross-government mentoring programme for Public Sector analysts delivered with Government Digital Service, run in parallel with in-house ONS Data Science Academy.
- Graduate Data Scientist Programme: 2-year programme for PhD and MSc graduates, with 2nd cohort starting in October 2020.

International Programmes

- Faculty-delivered workshops, training and mentoring programmes for National Statistics Institutions, and a dedicated research and training team co-located with the Foreign, Commonwealth and Development Office in Glasgow.

Cabinet Office | Companies House | Department for Business, Energy & Industrial Strategy | Department for International Development | Department for International Trade | Department for Work & Pensions | Home Office | Ministry of Justice | NHS Digital | Ofcom making communications work for everyone

Office for National Statistics | Northern Ireland Statistics and Research Agency Gníomhaireacht Thuaisceart Éireann um Staitistící agus Taighde | Government Statistical Service | NISR National Institute of Statistics of Rwanda | United Nations Economic Commission for Africa

Apr – Jul 2019

Campus courses:

- 290 people trained
- 240 hours of courses delivered
- Programmes delivered for ONS and 9 UK government departments, and the UN Economic Commission for Africa

MSc in Data Analytics for Government:

- 4 x week-long modules delivered on site at ONS locations
- 58 people trained from ONS and 9 UK government departments

Mentoring:

- Data Science Accelerator: 42 participants and mentors across 7 UK hubs

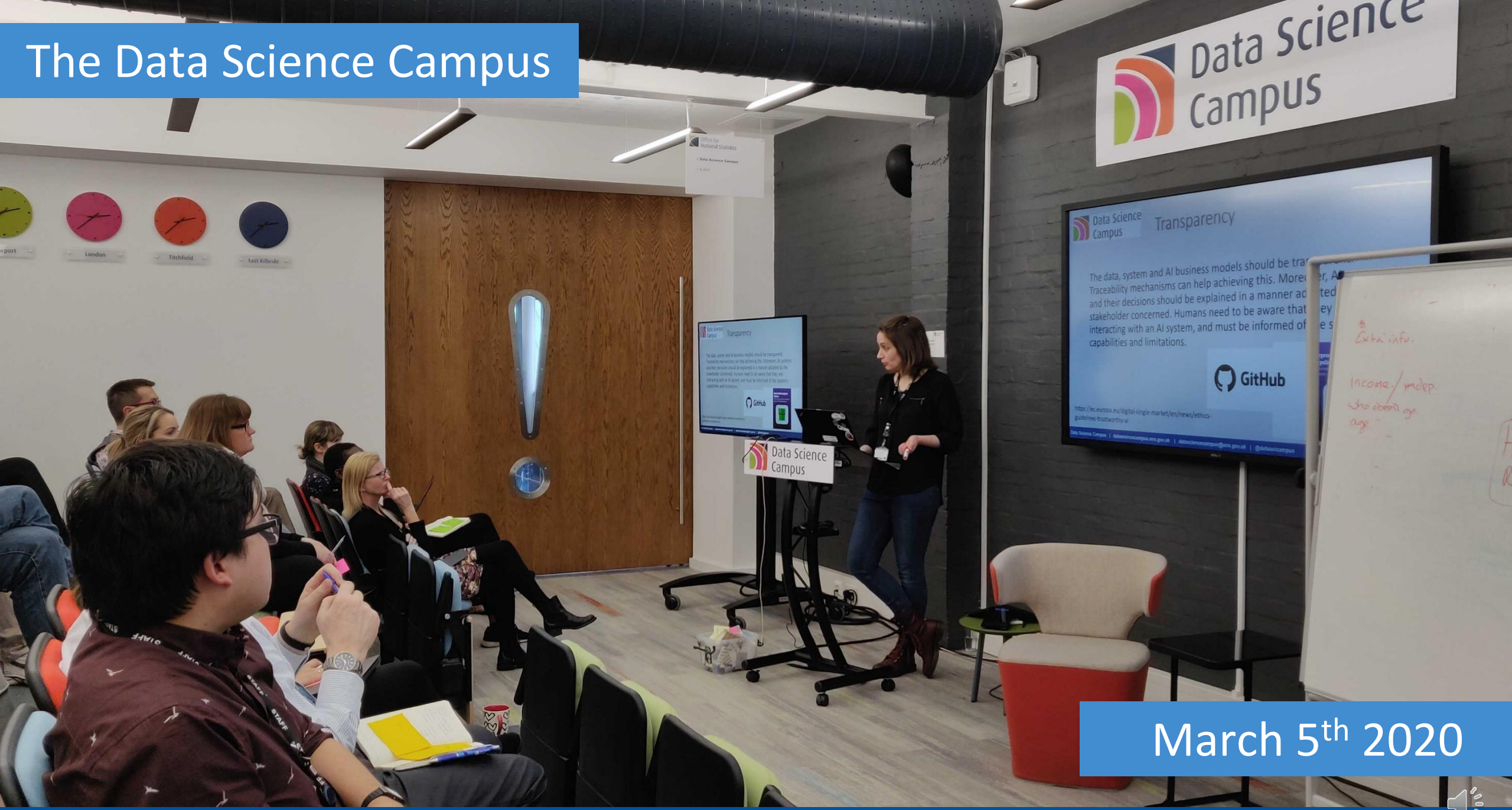
Live Events

- Workshops at 6 Civil Service conferences
- Data Science Community meet-up in London
- Over 250 attendees in all

Civil Service Live, Edinburgh, May 2019

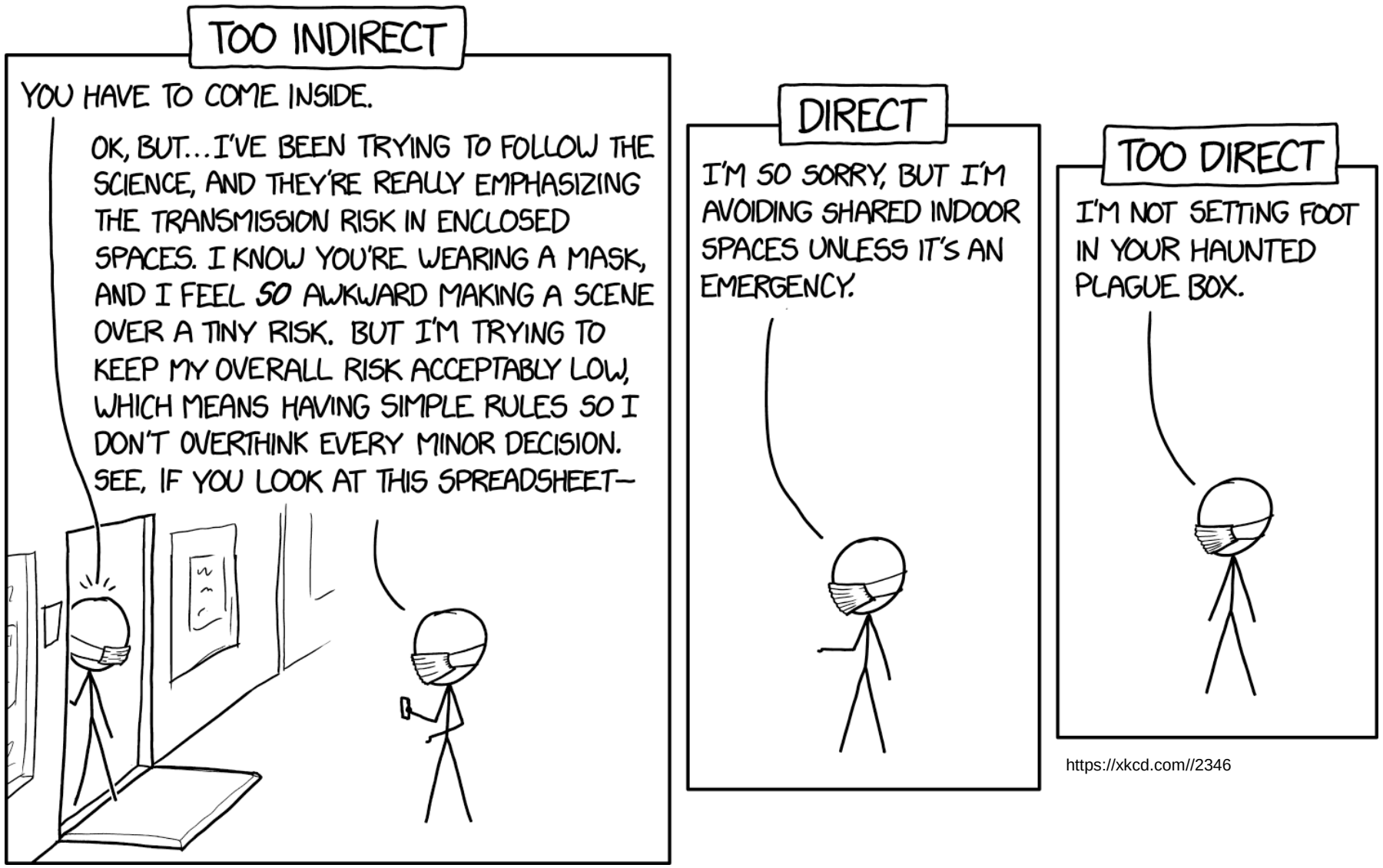
Developing the next generation of government Data Scientists

The Data Science Campus



March 5th 2020

Apr – Jul 2020



https://xkcd.com//2346

In-person training was no longer an option….

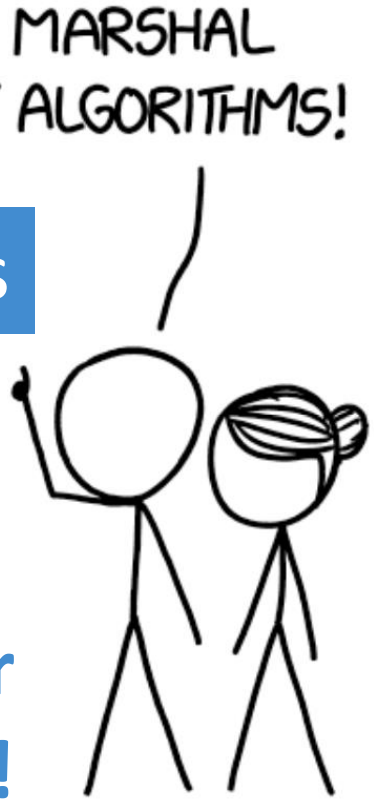
Challenge 1: Convert course content for online delivery

Challenge 2: Identify suitable technology platforms for delivery

Challenge 3: Convert live mentoring programme

Challenge 4: Get university partners to deliver online courses

Challenge 5: Stressed Civil Servants working from home!



https://xkcd.com//2341

…combined with urgent demand in government for real-time analysis of novel data sources!

Apr – Jul 2020

Campus courses:

- 170 people trained, 120 hours of courses
- Programmes delivered for 4 UK government departments, Kenyan National Bureau of Statistics, National Institute of Statistics Rwanda and the government of Paraguay

MSc in Data Analytics for Government:

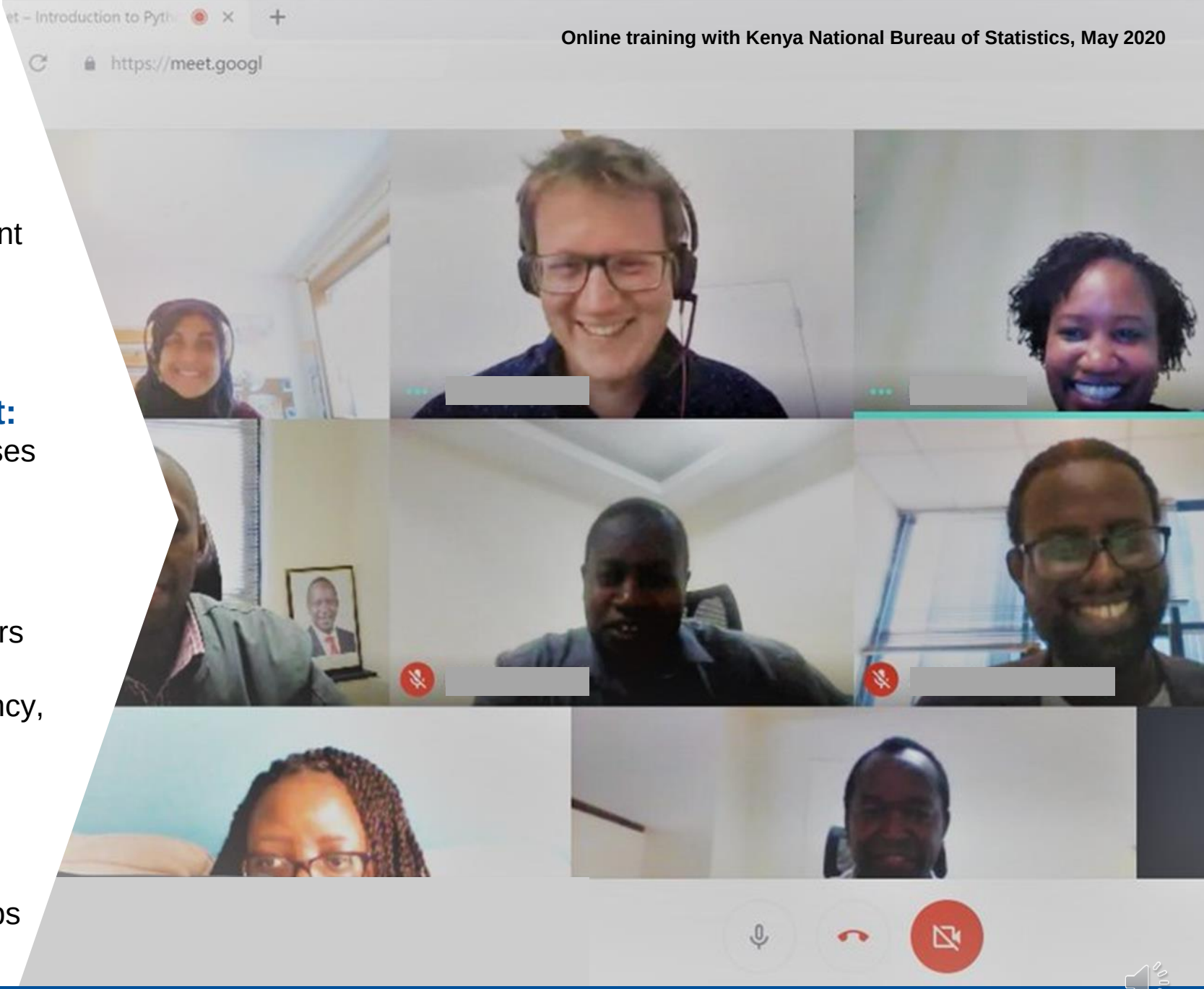
- Online week-long modules and short courses developed and delivered by 2 universities
- 30 people trained from 7 UK departments

Mentoring:

- UK Accelerator: 40 participants and mentors
- Direct mentoring programmes with Ghana Statistical Service, Namibia Statistics Agency, National Institute of Statistics Rwanda, UN Economic Commission for Africa, Vanuatu National Statistics Office

Live Events

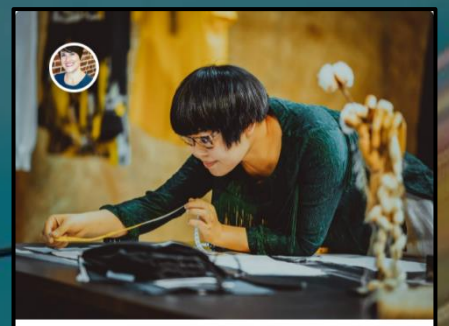
- 2 Data Science Community virtual meet-ups
- Over 300 attendees in all



Online training with Kenya National Bureau of Statistics, May 2020

https://busrides-trajetsenbus.ca/

The Future: User-centred Learning



Data

What is Data?

We've got the data, now what? How to leverage our data for better decision makin...

8 months ago • 25 min read

Open Government

APIs: Data Waiters in Disguise

Why are APIs so useful? Learn what they are, how they're being used and the stil...

6 months ago • 29 min read

BETA BUS RIDES

Bite sized learning about digital technology and government

The Digital Academy at The Canadian School of Public Service

Big Data training resources

datasciencecampus.ons.gov.uk/capability/data-science-campus-faculty/

www.gla.ac.uk/schools/mathematicsstatistics/postgraduate/mdatagov/

marketplace.officialstatistics.org/

busrides-trajetsenbus.ca/

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