

## Training sessions:

### **Introduction to handling large datasets in R: a dive into internal migration data – Tuesday 11 September 1.30pm.**

***Trainer: Wil Tonkiss (Greater London Authority)***

As demographers we often have access to very large datasets covering entire populations in great detail and spanning many years. However, in the past our ability to analyse, use and work with such data has been constrained by software limitations and processing speeds. Over the last five years the statistical programming language R, and the RStudio user interface, have become the tools of choice for statisticians of all types working with, and seeking to gain understanding from, large datasets.

This training session provides an introduction to R and RStudio and demonstrates how they can be used to manage and analyse larger datasets. The data used is the ONS detailed internal migration series estimates for 2017, which provide origin-destination information by single-year-of-age and sex for local authorities in England and Wales.

The flexibility of R means that there is usually more than one way to approach an analytical exercise. This session will follow Hadley Wickham's tidyverse principles and the suite of packages he has developed for wrangling and visualising data.

What will you learn?

Reading data into R and saving outputs

The concept and importance of 'tidy data'

Data manipulation and analysis using tidyverse packages

Data visualisation using ggplot2

The tools and tips that you take away will be applicable to any datasets that you currently work with and will enable you to get started on your own analysis in R.

We will provide a list of useful resources that will assist in your ongoing education in R.

Who is running the session?

Wil Tonkiss is a Senior Research and Statistical Analyst at the Greater London Authority. He is responsible for developing and maintaining the GLA's suite of demographic models (which are implemented in R) as well as working on bespoke analysis and research projects alongside policy teams and stakeholders.

How will the session work?

The session will be very hands-on with attendees writing and running their own code. We will start with the basics but quickly move to practical real-world examples of how to analyse and manage data in R. Experience of working with code or other statistical packages will be of benefit (e.g. SPSS, Python).

## **Early career mentoring – Tuesday 11 September 6.20pm**

### ***Organisers: Alina Pelikh (University of Essex) & Alyce Raybould (LSHTM)***

At this year's conference, we are happy to announce an 'early career mentoring session', where young researchers will have the opportunity to speak with both academics and non-academics. The session will be on Tuesday 11<sup>th</sup> from 18:20 – 19:15.

The format this year will be in the style of a "world café" / "speed-dating" session. Students in groups of 5 will circulate every 10 minutes round tables of 2/3 mentors. The following attendees have kindly agreed to take part:

#### Table 1: Consultants

- Piers Elias, Independent consultant and BSPS president
- Nahid Kamal, Founder of PopDev Consultancy
- Dominick Veasey, Director at Nexus Planning

#### Table 2: Local Government

- Ben Corr, Demography manager at the Greater London Authority
- Rebecca Jathoonia, Office for National Statistics

#### Table 3: Junior Academics

- Fran Darlington-Pollock, University of Liverpool
- Ben Wilson, Stockholm University
- Thijs Van den Broek, LSE

#### Table 4 and 5: Senior Academics

- Hill Kulu, University of St Andrews (TBC)
- Clara Mulder, University of Groningen
- Paul Norman, University of Leeds
- Rebecca Sear, LSHTM
- Wendy Sigle, LSE
- Athina Vlachantoni, University of Southampton

Each mentor will have just a few minutes to sum up their career path and take a few questions from the group of students, before the bell rings and the students circulate to the next table. Although there is not a lot of time to get into deep discussion, we hope that this will provide the students with a wide overview of possible career trajectories, and facilitate further discussion between themselves and the mentors throughout the remainder of the conference.

## **Introducing the three UK Census Longitudinal Studies – Wednesday 12 September 9.00am**

***Trainers: CeLSIUS Team, University College London***

This training session is designed to introduce people unfamiliar with the analysis of longitudinal data and the unique social science that can be undertaken with microdata that tracks individuals over time, to the kinds of analyses that can be carried out.

The session will provide a general introduction to the UK national LSs. A brief talk will be followed by an opportunity for delegates to have a hands-on session to:

- explore which variables are held by each LS in the data dictionary and use test data;
- have help completing an application to use LS data;
- meet with Support Unit staff and discuss the development of new research projects
- get the chance to explore and process longitudinal data and visualise longitudinal transitions in R using the SYLLS Synthetic Longitudinal Study micro-datasets

No previous experience of microdata or statistical analysis techniques is required

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## **POPGROUP: How to create & compare demographic projections for local planning & estimate the children from new housing – Wednesday 12 September 11.00am**

***Trainer: Ludi Simpson (University of Manchester)***

A repeat of the popular session in 2014, demonstrating the POPGROUP demographic software used as industry standard in UK local plans. It is also used for social and health care planning and other derived forecasts, for districts and for smaller areas.

In this session, participants will select any district in England, replicate the official population and household projections, run a standard labour force projection, and explore the demographic impact of building 1000 extra dwellings.

The software is free for the training session but covers its costs through licensing for academic, government and business use. It is owned by the Local Government Association.