

## **ESRC UCL, Bloomsbury, East London Doctoral Training Partnership Co-funded PhD studentships at the Consumer Data Research Centre (CDRC)**

The [Consumer Data Research Centre](#) have three co-funded PhD studentships in quantitative social science based in UCL's [Department of Geography](#). The awards will be administered through the [UBEL Doctoral Training Partnership](#). Projects are available working with the **Local Data Company**, the **Office for National Statistics**, and **Kantar Worldpanel**.

These awards are open to applicants with backgrounds in quantitative social science and related disciplines, such as geography, social statistics, political science, economics, applied mathematics, planning or sociology. Students will be expected to work with consumer data as part of an exciting multidisciplinary research centre.

The studentships will cover

- Full payment of tuition fees per year – for either three years (Ph.D. only) or 1+3 years (including a preparatory year's Masters study in a quantitative social science course).
- Annual maintenance stipend full-time: £16,999 (plus an additional £2,000 Advanced Quantitative Methods supplement) for 2018/19.

### **If you are interested in applying, please:**

1. Ascertain your eligibility to hold an ESRC studentship [here](#). Note that full awards are intended for students ordinarily resident in the UK although, exceptionally, overseas students with strong backgrounds in advanced quantitative methods may be eligible.
2. Ascertain your research training foundation. If you hold or expect to obtain a relevant MSc with methods training meeting the 2015 [ESRC Postgraduate Training Guidelines](#), you may apply for a +3 studentship. If you do not, you will need to take one of the related MSc courses at University College London, examples detailed [here](#). If following this route we will discuss with you the most appropriate course to apply for.
3. Please apply to Dr Tank Green ([tank.green@ucl.ac.uk](mailto:tank.green@ucl.ac.uk)) by **9am on Monday 11th February 2019**. Please send:
  - Max 500 word covering email summarising your interest in pursuing a particular co-funded PhD studentship with the CDRC.
  - Academic CV including marks awarded to date plus details of 2 referees

Please note that only strong candidates (at least 2.1/Merit with elements of first/distinction level) will be considered.

Details of the three co-funded projects appear below.

## 1. Capturing the vibrancy of the British retail landscape through new forms of data

*Industry Partner: Local Data Company*

*First Supervisor: Dr James Cheshire*

*Second Supervisor: Professor Paul Longley*

*Industry Supervisor: Barnaby Oswald*

It is clear that consumer behaviour in the UK is changing with dramatic and profound consequences for the economy and for society. For example, in recent months Marks & Spencer has announced store closures, Homebase is to close 42 outlets and cut many head office jobs, and House of Fraser has been purchased by Sports Direct. These developments are symptomatic of major structural changes in the service and leisure sectors; in 2018 alone, there have been over 30,000 job losses in retailing and a negative £1.5bn hit on GDP. It is therefore becoming critical that all stakeholders in business and service planning better understand changes in the nature of consumer behaviour with respect to a full range of goods and services. It is also crucial that academic researchers seek to understand these changes through partnering with business to benefit from access to new forms of data that may reveal the changing consumer landscape in real time. By working with the Local Data Company, this co-funded PhD builds on an existing and very fruitful relationship to draw together a range of data to create innovative indicators of the composition and vibrancy of retail areas (high streets and town centres) in Britain.

The primary aim of this co-funded PhD, therefore, is to improve our understanding of the spatio-temporal dynamics of high-street retailing in Great Britain. Unlike online retailing, this involves quantification and measurement of human activity to capture both demographics and also flows. These are already the subject of active research, but very little has been done to realise the potential of new forms of data in the context of retailing. This project will demonstrate the potential for monitoring the success and vibrancy of retail areas, thus providing immense value to occupiers, landlords, local authorities, investors and consumers within the retail industry.

### Research Questions

1. How can new sources of data be used to assess the vibrancy of British retail areas?
2. How do such sources impact on existing methodological approaches to retail decision making?
3. What are the key barriers to implementing data driven decision making in GB retail?

### Outcomes

1. A comprehensive retail vibrancy index that can be mapped and updated quarterly.
2. An appraisal of the role of new forms of data in the monitoring of the retail landscape.
3. A basis for forecasting changes in British retailing and recommendations for making retail areas more vibrant and sustainable.

This is likely to be a high impact project since the research will investigate the factors affecting the vibrancy of retail areas in Britain. This is highly topical and hugely important. The research will benefit from the most comprehensive datasets available to academic research and will therefore produce significant insights that will be of interest to academics as well as retail practitioners.

## 2. Hybrid geodemographics and creation of the 2021 Output Area Classification

*Industry Partner: Office for National Statistics*

*First Supervisor: Professor Paul Longley*

*Second Supervisor: Dr James Cheshire*

*Industry Supervisor: Dr Chris Gale*

Geodemographics are small area indicators of neighbourhood conditions, conventionally used to depict the variegated residential geographies of towns and cities. Although the approach has its roots in the primary data collection of urban sociologists Park and Burgess in 1920s Chicago, procedures of ascribing neighbourhoods to social, economic and demographic types relied upon secondary data from population censuses until the 1980s. With the advent of applications in commerce and public service delivery, data have been supplemented and partially replaced by commercial and open sources that offered greater frequency of update and depth (particularly in ascertaining income and spending preferences). Over the last ten years, improved access to censuses and the innovation of the Open Data movement has led to the addition of open geodemographic classifications that present greater transparency of data and methods. A final innovation has been the reconfiguration and re-use of census data to provide small area classification of activities other than night-time residence, specifically workplaces or their extension to explore varying temporal geographies.

In the first work strand, the methodologies used to develop the 2011 and 2001 Output Area Classifications (OACs) from conventional Census data will be evaluated, and neighbourhood change statistics will be compared and contrasted for different parts of the UK's urban and regional system. In the second work strand, the student will develop methods for regularly (e.g. annually) updating Output Area Classifications. A third strand of the research will use consumer data to characterise the overall activity patterns associated with neighbourhoods, and their interrelatedness with workplace zone geographies.

This will be a high impact project. The 2001 and 2011 OAC products have been made available through the ONS website and have attracted a wide user base from within the local authority, business and industry sectors. In addition, the classification arising from this research will be mapped using the very popular and highly interactive [maps.cdrc.ac.uk](http://maps.cdrc.ac.uk) website and ONS will consider rejuvenating the OAC 2011 User group which attracted membership from local authorities and government across the UK. Additionally, we anticipate that the activity indicators will be of interest to the businesses that supply data to ONS under the terms of the 2017 Digital Economies Act or through associated voluntary activities. The agenda that is proposed here also has clear relevance to retailers and businesses with interests in store location planning and the provision of facilities to improve customer experience of multi-channel retailing.

### **3. Creating a synthetic panel to allocate the total grocery market volume to locations, occasions, and individuals**

*Industry Partner: Kantar Worldpanel*

*First Supervisor: Dr James Cheshire*

*Second Supervisor: Professor Paul Longley*

*Industry Supervisor: TBC*

In the UK Kantar Worldpanel maintains a dataset comprising 30,000 households who record and provide their expenditure on goods purchased for home use. There are three nested panels within this large panel, covering out of home purchasing (OOHP), out of home usage (OOHU), and in-home usage (INHU). Each of these is separately weighted to show the total purchasing, representative of the GB population. Weights reflect socio-demographic and behavioural variables known to influence under-reporting. Current weighting approaches are applied in a similar way to flagship research council funded academic panels (for example the ESRC's Understanding Society survey, which is also supported by Kantar).

Whilst these data provide a robust basis for consumer research, a key challenge is the limited overlap between in home and out of home expenditure. The proposed PhD will develop solutions to this problem based on the following objectives:

1. The synthetic linkage of the aforementioned panels and cohorts based on combinations of attributes from different people.
2. Data fusion through linking together panels and sub-panels across in/out home and consumption/usage to capture the total market. In addition, a number of associated challenges need to be overcome, particularly the relatively small subset of the panel data appropriate to do this.
3. Calibrating data collected by *Shoppix*, a new mobile app developed by Kantar.

Additional benefits of synthetic linkage might include mapping external variables (e.g. segments) and loyalty card data where the unique identifier is not known. Any methods developed might support weighting/imputation of data from the mobile data application. Most attention will be given to four methodological approaches: linkage, weighting, imputation and modelling. These approaches require careful consideration and the student will be supported both by the academic supervisory team and Kantar's in-house researchers.

It is anticipated that the work will be of high impact in a number of ways. Firstly, it offers the chance to generate more accurate measures of consumption – essential information for both commerce and social science research. These measures will be the product of significant methodological developments that can be applied to existing data holdings within the ESRC's Consumer Data Research Centre and also may be of interest to initiatives spearheaded by the Office of National Statistics to derive official statistics from a broader range of consumer datasets. Finally, the outputs will be of significant interest to retailers and businesses with interests in store location.