**Classifying areas using k-means cluster analysis in SPSS**
(10am to (approx) 12-45pm including (approx) 20 minute coffee break)
Paul Norman: University of Leeds

Target audience
This workshop is suitable for SPSS users (who are likely but not expected to have prior knowledge of multiple regression whether OLS or logistic) interested specifically in how area characteristics may relate to an outcome of interest or more generally in data reduction techniques.

The course tutor, Paul Norman of the School of Geography, University of Leeds, is a population and health geographer who has wide experience of deriving and using location characteristics in both area and individual level research.

Aim
Starting with a non-risk assessed practical using kitchen utensils and cutlery (Intrigued? You should be!), this course will introduce participants to methods that cluster geographically distant places together on the basis of socioeconomic commonalities. Clustering techniques underpin geodemographics, the "classification of small areas according to their inhabitants" (Rothman, 1989: 1). Geodemographics has mainly been used in business applications but is increasingly used in social sciences to differentiate between outcomes occurring in different types of places (analogous to investigating differently deprived areas or urban and rural locations). Precalculated classifications, such as the ONS Supergroups, are often attached to individual records in survey data and health records.

There are several clustering methods, the commonest being k-means classification. In this half day course we will first cover why and how classification is carried out and then derive area typologies using k-means in SPSS for the Lower Super Output Area geography using census data. We will discuss how classifications can be used in both individual and area based studies.

Learning outcomes
• Knowledge of classification, the pros and cons
• Practical experience of carrying out k-means classification
• Awareness of how area typologies can be used in research
• Access to example literature which develops and / or uses classifications