Hello All!

I'd like to announce the return of the University of Glasgow's Q-Step Centre's Summer School!

This year we are running two new and exciting course offerings:

-**Machine Learning**

-Quantitative Text Analysis

Each course will start with an Introduction (refresher for our more experienced participants) to R, followed by 2 days of training on your selected course. Details on the courses and dates are below.

Dates: Monday 5 August – Wednesday 7 August 2019

Fees: Courses are free to attend, though advanced registration is required as spaces are limited

Course Descriptions

Quantitative Text Analysis:

Instructor: Brian Fogarty

Summary: This short course serves as an introduction to Quantitative Text Analysis (QTA) in the social sciences. While social scientists have used text (e.g., news coverage, politician speeches, interview transcripts, etc.) in their research for, technically, centuries, it has only been in the past decade or so that using text-as-data in a quantitative and automated capacity has emerged in the social sciences. This has revolutionised how social scientists can use textual data in their research.

Using R and relying heavily on the Quanteda package, the course is composed of four general areas: foundation of text analysis, processing text, basic text analysis, and more advanced text analysis.

Foundations of text analysis will examine:

- Background of text analysis and QTA

- When can use QTA
- Benefits/costs of QTA

The processing will examine:
- Reading in text files
- Creating corpuses
- Pre-processing and cleaning text
- Tokenizing
- Creating document-feature/document-term matrices

The basic text analysis will examine:
- Term frequencies
- Keyword-in-context
- Lexical diversity
- Keyness
- Document similarity
- Basic text visualisations

The (more) advanced text analysis will examine:
- Sentiment analysis
- Topic modelling
- Structural topic modelling
- Ideological placements

Machine Learning:

Instructor: Nema Dean

Summary: Machine learning methods involve methods that deal with multivariate data, learning hidden structures and prediction. In particular within prediction methods, classification is a special case where independent variables are used to predict which one of a number of classes an object belongs to, e.g. is an email spam or not spam, is a person likely to vote for a particular party over the others, etc. For multivariate data you may wish to reduce the number of variables for either simpler modelling or to try to discover hidden concepts within the data. Finally although we are often interested in known group structures, we may also be interested in discovering unknown ones, e.g. based on voting patterns, do MPs simply fall within their party defined groups or are there new subgroups within them. This course will look at a subset of these types of methods including: principal component and factor analysis, classification using k-nearest neighbours, classification and regression trees, discriminant analysis classification and cluster analysis. In addition to lectures giving background on the methods and the intuition behind them to

aid understanding, there will be computing sessions in R showing how to implement these methods on real data examples.

As part of the University of Glasgow Q-Step Centre's interest in bringing together members from our fellow Q-Step institutions***, funding is available to cover the cost of travel and accommodation for the three days for 20 participants - 10 from Q-Step Centres, and 10 from the SGSSS.***

For those interested in applying for travel and accommodations, please submit a 500 word essay on how the experience would advance your learning; in particular, which course from the session they would be interested in taking, why are they interested in that course, and how would this experience be used in relation to their future career or academic plans. **Deadline to apply is 30 June 2019**. Offers will be made by 3 July 2019.

Eligible participants should be familiar with R and can include undergraduate students involved with Q-Step or members of staff involved with Q-Step.

For questions, please contact us at socsci-qstep@glasgow.ac.uk with the subject heading "Summer School Questions".

To apply for funding, please contact us at socsci-qstep@glasgow.ac.uk with the subject heading "Summer School Funding". **Applications are due by 30 June 2019**. Decisions will be made by 3 July 2019.

To register, please follow the links to the appropriate Eventbrite page! Password: qstep

We look forward to seeing you this summer!

Best wishes,

Dr. Niccole M. Pamphilis and the Q-Step Team at Glasgow

REGISTRATION LINKS (click on the course):

MACHINE LEARNING *plus* INTRODUCTION / REFRESHER TO R

QUANTITATIVE TEXT ANALYSIS *plus* INTRODUCTION / REFRESHER TO R