PROGRAMME

Statistical Signal Processing Workshop
12-13 April 2018
**Workshop Venue**

The talks will be held in the lecture theatre on the ground floor in the Postgraduate Statistics Centre (building PSC [South Campus] on campus map), which is located approx. 5 minute walking from Lancaster House Hotel (building LCC [South West Campus] on campus map).

**Day 1: Thursday 12 April 2018**

Lecture Theatre, Postgraduate Statistics Centre (building PSC [South Campus] on campus map)

10:30–10:50  Registration (with tea & coffee)
10:50–11:00  Welcome

11:00–11:45  Josiane Zerubia (INRIA, France)
Marked point processes for object detection and tracking in high resolution images: Applications to remote sensing and biology

11.45–12:00  Julian Newman (Lancaster University, UK)
MODA: A new numerical toolbox for analysing oscillatory dynamics of open systems

12:00–12:15  Sam Tickle (STOR-i student, Lancaster University, UK)
On the properties of a common changepoint detection method

12:15–12:30  Youssef Taleb (Imperial College London, UK)
First-order multiresolution analysis of point processes based on wavelet expansions of the intensity

12:30–13:30  Lunch

13:30–14:15  Andrew Walden (Imperial College London, UK)
Time series graphical modelling for brain connectivity

14:15–14:30  Alireza Ahrebian (University of Surrey, UK)
Segment parameter labelling in MCMC mean-shift change detection

14:30–14:45  Jamie-Leigh Chapman (STOR-i student, Lancaster University, UK)
Nonparametric change in variance detection in telematics data

14:45–15:00  Matt Moores (University of Warwick, UK)
An errors-in-variables model for batch effects in spectroscopy

15:00–15:30  Tea & Coffee Break

15:30–15:45  Alex Gibberd (Imperial College London, UK)
Wavelet coherence for multivariate point-processes

15:45–16:00  Alex Fisch (STOR-i student, Lancaster University, UK)
A linear time algorithm for the detection of collective anomalies in data streams

16:00–16:15  Ana Fernandez Vidal (Heriot-Watt University, Edinburgh, UK)
Maximum likelihood estimation of regularization parameters

16:15–17:00  Peter Craigmile (Ohio State University, USA)
Wavelet-based estimation for spatio-temporal processes

19:00  Conference Dinner, Lancaster House Hotel
Day 2: Friday 13 April 2018

Lecture Theatre, Postgraduate Statistics Centre [building PSC (South Campus) on campus map]

09:00–09:45  **David Simpson** (University of Southampton, UK)  
Blood flow control in the brain: The challenge of diversity

09:45–10:00  **Swati Chandna** (Birkbeck, University of London, UK)  
Network modeling using covariates with application to brain data

10:00–10:15  **Harjit Hullait** (STOR-i student, Lancaster University, UK)  
Classification of manoeuvres performed in a Pass-Off test

10:15–10:30  **Mansoor Sheikh** (King’s College London, UK)  
High-dimensional statistical inference applied to Terahertz Pulsed imaging signals

10:30–11:00  Tea & Coffee Break

11:00–11:30  **Ed Cohen** (Imperial College London, UK)  
Algorithmic resolution: A spatial statistical approach to defining resolution in modern optical imaging

11:30–11:45  **Yordan Raykov** (Aston University, UK)  
Automated quality control for sensor based symptom measurement performed outside the lab

11:45–12:00  **Sean Ryan** (STOR-i student, Lancaster University, UK)  
Computationally efficient detection of subset multivariate changepoints

12:00–12:30  **Tony Lawrance** (University of Warwick, UK)  
Synchronized laser-chaos communication: Statistical analysis of an experimental system

12:30–13:30  Lunch

13:30–13:45  **Maarten Jansen** (Université libre de Bruxelles, Belgium)  
Multiscale local polynomial transforms for use in density estimation and exponential models

13:45–14:00  **Tobias Siems** (Visiting STOR-i student, Greifswald University, Germany)  
Simultaneous credible regions for multiple changepoint locations

14:00–14:15  **Lekha Patel** (Imperial College London, UK)  
A hidden Markov model approach to characterising the behaviour of molecules imaged in fluorescence microscopy

14:15–15:00  **Peter Schreier** (Universität Paderborn, Germany)  
Correlation analysis with small sample sizes

15:00–15:10  Closing and farewell
Wifi

The **eduroam** network should work automatically everywhere on campus and at Lancaster House Hotel. Another network is **LUvisitor**, for which you can register using your web browser (connect and try to browse the web, the registration page should appear).

Lancaster and Lancaster University

There are **two universities** in Lancaster, please make sure you arrive to Lancaster University, whose campus is actually located in Bailrigg, approx 3 miles southwards from Lancaster. The Lancaster House Hotel and Lancaster University Visitor Rooms are located on campus.

How to arrive/depart

**On campus**: All buses drop off and collect passengers in the Underpass, situated underneath Alexandra Square (in between North and South Campus on campus map). From there it is a 10 minute walk to Lancaster House Hotel (building LCC [South West Campus] on campus map).

**From Lancaster railway station**  you need to take a taxi or bus to get to the campus. Local taxi services (cost approx £10 and take approx 10 mins) can be contacted on +44 (0)1524 32090; +44 (0)1524 35666 and +44 (0)1524 848848. The U3 bus service operates between the railway station and the University approx. every 30 minutes Monday to Saturday daytimes. From the railway station it takes approx 10 mins to walk to the city centre.


**From Manchester airport**  you can get a direct train (1:20hrs) to Lancaster railway station, see [http://www.nationalrail.co.uk](http://www.nationalrail.co.uk). We recommend getting an **Offpeak return ticket** (outward time is flexible on the chosen date, return data and time are flexible within 30 days). To get a prearranged taxi from the airport for a better price, see [http://www.lancasterairporttransfers.co.uk](http://www.lancasterairporttransfers.co.uk).

**By car**: Postcode for route planning is LA1 4YF. For more info on arriving and visitor car parking see [http://www.lancaster.ac.uk/contact-and-getting-here/maps-and-travel/](http://www.lancaster.ac.uk/contact-and-getting-here/maps-and-travel/)

What to do in any spare time

If you come earlier or stay longer in Lancaster, you can visit Lancaster Castle, Lancaster Brewery, several churches and museums, walk in Williamson Park or along Lancaster Canal and the Lune aquaduct, or enjoy a performance at The Dukes or the Grand Theatre. You will find excellent food and atmosphere in The Borough, Merchants 1688, and The White Cross; get the typical English breakfast in The Sun Bar. Further away, visit Morecambe beach, the Yorkshire Dales, or the Lake District.