Statistically Speaking...

News and views from the Statistics Department

A word from the Editors

Welcome to the third issue of *"Statistically Speaking..."* - a termly publication designed for all current and past staff members, as well as current and past students of the Statistics Department in Warwick University.

This March issue includes information on recent news and events from the Department, upcoming seminars, scholarships and other awards, student experience reflections and some advice on how to organise a successful conference.

Contributions are most welcome and should be sent to statspeak@warwick.ac.uk.

A big thank you to all who contributed to this issue or participated in its production in any way.

Larbi Alili, Antoniya Petkova
Managing Editors

OxWaSP

OxWaSP: now funded EPSRC/MRC Statistics Doctoral Training Centre

We are now recruiting for an October 2014 intake to OxWaSP – the Oxford and Warwick Statistics Progamme for big models and big data. Good MMORSE, MMStats, and MSc Statistics students from Warwick are ideally qualified for this PhD programme.

It has suddenly become necessary for companies to process through their statisticians very large amounts of data or for their statisticians to deal with very high dimensional models. As a consequence over the last few years noticed 30-40% of our Statistics PhD students coming to Warwick need further initial training in Statistics to develop extra competencies over and above those gained from a general MSc to address these new challenges. This CDT - run jointly with Oxford University - with a cohort of at least 10 students and with 3.5 studentships a year provided by the EPSRC/MRC for UK and EU students studying at Warwick University - provides just this sort of training.

For more details of this exciting new programme visit our website at: http://www2.warwick.ac.uk/fac/sci/statistics/oxwasp.

The training could help you become a world leading academic and, failing that, a millionaire!

Jim Smith, Co-Director
OxWaSP Statistics Programme

Congratulations to:

Dr Terry Soo on his tenure-track position at the University of Kansas this August.

Dr Audrey Kueh who has been awarded a PhD from the University of Cambridge.

Dr Partha Dey on his recent wedding, as well as securing the position of Assistant Professor at the Department of Mathematics in the University of Illinois at Urbana-Champagne.

Davide Pigoli who will soon be a Research Associate in the Department of Pure Mathematics and Mathematical Statistics, University of Cambridge.

Dr Helen Ogden for the successful passing of her PhD viva.

New Starters

A warm welcome to the Department's most recent starters!

Professor Mark Girolami
Started on 6 Jan 2014

Theodore Papamarkou
Started on 6 Jan 2014

Vassilios Stathopoulos
Started on 6 Jan 2014

Silvia Montagna
Started on 2 Jan 2014

Michael Epstein
Started on 6 Jan 2014

Michael Betancourt
Started on 6 Jan 2014

Warwick **Statistics**

What Has Statistics Ever Done For You?

By Antoniya Petkova

A celebration of Statistics was held on 27 November in the Statistics Department. The public engagement event was a part of the International Year of Statistics 2013 and included a showcase of the various ways Statistics has contributed to science and society.

A rich blend of academics, students and the public were present, attending informative talks by statisticians at Warwick and their collaborators, as well as external experts. The event also included a Brains Trust discussion with audience participation and an exhibition of statistical posters.

The chair of the organising group, Professor Simon French, said the event aimed to show both academic and lay audiences how statistical thinking had a central role in Society, Industry and Academia.

The three afternoon talks reflected the range of interdisciplinary research at the university and the value that can be gained from the full integration of a statistician into a multidisciplinary project team. Dr Tom Nichols (Warwick) and Nicola Filippini (Oxford) examined this relationship in the field of neuroimaging; Nigel Stallard and Gavin Perkins (WMS) discussed data monitoring in a randomised controlled clinical trial for adrenaline in out-of-hospital cardiac arrest; and Professor John Aston (Warwick) and Professor John Coleman (Oxford) delved into the area of phonetics and language.

The following Brains Trust discussed the challenges in setting up such collaborative research projects and the means to overcome them.

After a quick break giving people the chance to have a look at the poster exhibit, the event continued with an award for the winner in the Poster competition which went to students of years 10 and 11 of the Kenilworth School for their poster "Where could statistics move you?".

The evening ended with a public lecture by Professor Marian Scott from the University of Glasgow, who explored the role of Statistics in addressing challenges in the environmental sciences and policies, drawing examples from archaeology, air quality and water.

The event was organised jointly by the Statistics Department, the University's Learning and Development Centre with help from Andrew Mead in Life Sciences and the local Royal Statistical Society Group, and funded by the University's EPSRC Impact Acceleration award.

"From the beginning there was enthusiasm from the Department and others across the University", Simon said. "We attracted a large and varied audience from within the University, local schools and business and the public. There were many comments from the audience to suggest that the event was a resounding success in achieving its aims."

Student Experiences

Iain Carson, 4th Year Student

For eight weeks over the summer of 2013, I worked for WMG (Warwick Manufacturing Group) as part of the URSS (Undergraduate Research Scholarship Scheme).

I began by looking into the 'semantic web' and its applications in both the present and the future. Rather than using the web in its traditional state, just identifying words and phrases as mere strings of letters, the aim here is to 'understand' the text by automatically dealing also in synonyms and other content which has similar properties, such as co-occurring entities found in tweets. I am confident that the new Data Science degree will produce graduates ready to enter this new landscape with a fresh approach to how machines view text.

Having become familiar with this background topic, I settled on an area of focus for the remainder of the project: investigating how to infer people's attitudes, emotions and experiences by analysing tweets en masse. By building up collections of tweets which include a custom search term, I looked into how to generate qualitative summaries of the content which reflect the authors' experiences. I found success in extracting related experience-building entities, identifying emotions which the authors likely associate with the search term, and deriving themes which occur throughout the obtained collection of tweets.

While the work itself was less challenging than most undergraduate mathematics and statistics modules, I found that the real difficulty came in thinking in a broad and lateral way, rather than in the deep and concentrated way which I am used to. Overall, the URSS experience has complemented my degree course well, by supplementing what I have learned in lectures with programming skills, the ability to think laterally, and experience of work.

David Whitcombe, 4th Year Student

Over the summer I completed a twelve week internship at IBM called Extreme Blue. I was a technical intern, which meant that my main responsibilities involved computer programming in a variety of languages, most of which I had never come across before! MORSE is great preparation for the analytical and logical approach required for programming, and even a little experience of R is a good start for learning programming.

My project was entitled 'Remote Care', and our brief was to "create an assistive technology for Dementia patients." This involved us creating an Android application for the Dementia patient to use, and a web interface that their son or daughter could use to send messages to the device, and to choose times for entertainment features to be activated. Although I did not do any Statistics or Data Analysis, many of the projects had significant statistical elements, such as predicting speech patterns and 'Nowcasting' using Twitter. Indeed, it is hoped that later work on our application could include a diagnostic element by analysing patient interaction with the tablet.

It was a great experience that I recommend to anyone interested in computing or Data Science.
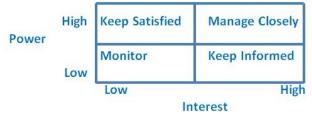
Warwick Statistics

Continued from our first issue…

What's in it for them? What your delegates will gain is closely linked to the purpose of your event – too many academic meetings end with everyone having discussed fruitful avenues for collaboration and research that never come to pass. If furthering research is your purpose, you need to think how those ideas are captured and brought to fruition. What does Warwick get? Make sure the benefits to the University are spelled out and widely disseminated. What do your sponsors get: information in the delegate conference pack or a stand at the event? Decide on the minimum sponsorship you would like and what options you are prepared to offer. You are selling access to your delegates, but there must be some benefit for the delegates, too, which is why publishers of academic books are obvious sponsors for academic conferences.

What do the delegates need? This covers the more mundane elements of hosting guests, but the part they will remember if it is done badly: food and freebies make an event memorable. Think about what you like to have when you are a visitor: e.g. Coffee on arrival, somewhere comfortable to wait and work if your train gets you there early, toilets that are not behind a card-pass door, clear directions to the meeting place (both beforehand and with directions at the venue; this is important for Warwick Statistics because the entrance to Statistics is not obvious when you are a newcomer standing Zeeman foyer), comfortable accommodation if staying overnight, appropriate food ready on time, pens, paper and a suitable (in terms of equipment, layout & technical support) venue for the event.

Who, what when where and why? These are Kipling's "six wise men". For successful preparation, make sure you can answer these questions about your event. Asking people who have run a similar event what they wish they had known is a good strategy.

Manage your stakeholders: A stakeholder is anyone who can affect your event or is affected by it. They come in 4 broad categories, combinations of high and low power over your event and high and low interest in your event, and require correspondingly different kinds of management. Make a list of everyone who qualifies as a stakeholder and map them to one of the 4 categories. Then make a firm plan how to meet the needs of each.

High power high interest stakeholders require close management. These are people like your line manager, supervisor or tutor who care about how much time this is taking away from your other work, and can pull the plug. You need to look at your event from their point of view, and keep them in the loop. For a large event being organised over a number of months, a brief monthly update, for example, can assure them you are on top of things and are not just about to drop the department in it.

Low power high interest stakeholders are people like your delegates. They need to be kept informed in a timely manner: it is annoying for delegates to have to wait to the last minute for a decision about their talk or a start time so they can plan their journey, so issue these and the schedule as early as possible. Certainly tell them when they can expect these to be available.

Low power, low interest stakeholders are people like the caterers, and they just need monitoring. Book their services in good time and check everything is in order when giving them final numbers nearer the time.

High power low interest stakeholders need to be kept satisfied. These are people like a porter who controls access to the building, or an administrator through whom you book rooms. They have to manage their work, and your approach can make their lives easy or difficult; find out how to make their lives easy since they can really harm your event if they are not on board.

An individual may change stakeholder categories over time, so re-map at key time points in the run-up to the event.

Give in to your inner pessimist. Early in the planning process, think of everything that could possibly go wrong. There are four main approaches to risk, and for each risk identified, decide on a strategy. You can avoid the risk by taking preventative measure, you can mitigate the risk by having an alternative plan, you can accept the risk or you can transfer the risk by taking out insurance. Consider who will substitute if each conference officer falls ill and cannot fulfil their role. Remember that organising will take longer than you think – approximately 20% longer. There are unexpected delays or difficulties to overcome, endless delegate enquiries to answer. Your event will probably cost more than you think, too. Make sure you budget carefully and add a 20% contingency.

Make your plan: Plan backwards from the day of the event. What needs to be done the day before & cannot be done earlier? What about two days before, one month before, two months before etc.? Include stakeholder management and risk management strategies in the plan. Each person should have a clearly defined role, and each task should be assigned to a specific person. Meetings are ideally held weekly and each person should bring evidence that they have done what they agreed to do. There also needs to be an overall manager of the organising committee to hold volunteers to account to deliver on their commitments. If you have access to Sitebuilder and can make a page for your event, do so, but keep it robustly up to date. Use Sitebuilder's 'formsbuilder' for your registration form (being careful to amend the privacy notice appropriately), so you can download a list of everyone in .csv format. This is very handy for making badges, informing catering of special requirements, organising accommodation etc.

Walk through the day: Before your event, physically walk through the spaces you will use and evaluate them from a delegate perspective. What are the rooms like to give a talk in? Are there pointers and Mac adaptors available? Is there a power socket in a convenient place? Where will the delegates put luggage to be stored safely until they can check in to their accommodation? Will there be coffee waiting on arrival? Where will the registration desk be? Will enquiries be at the same place? How will the delegates know where to go and when and what to do? Is there enough vegetarian food? A rule of thumb is order 50% vegetarian food. Generally two shorter coffee breaks are better than one long one, and a long morning followed by a short afternoon works better than the other way around.

Prepare yourself: You will be busy during the conference, and the coffee and lunch breaks are the times when the delegates will want to catch you to ask for your assistance. This means you cannot rely on being able to have a drink or eat lunch at those times, so make sure you have your own supply of food and drink for when things are quiet. You need to dress as smartly as the smartest delegate, but also comfortably to be able to keep going. Delegates may be nervous about giving their talk, or have had a difficult journey and may be snappy or cold or hot or shy or in any number of other emotional states, so be prepared to smile and take the flak, and see what you can do to help. A customer service mentality is essential for a successful event; the night before your conference is not the time to go without sleep to submit a paper or grant application!

Read the last part of this article about how to run the event itself and follow up in our next issue!

This article was written by Dr Martine J. Barons, based on experience of organising a two hundred-delegate conference plus a number of smaller events following a training course "Organising an academic conference" delivered at Warwick University by Dr Caron King and aimed at PhD students.

In memoriam

In memoriam of Marc Jean Yor (July 24, 1949-January 9, 2014)

We are saddened by the death of our friend and colleague Professor Marc Yor on January 9, 2014 in Paris. He was a professor at the Pierre and Marie Curie University, Paris VI, in France, from 1981 until his death and was a member of the French Academy.

Marc was a frequent visitor to the Midlands. He was a very accomplished football player in his youth and he coached a junior football team, from his hometown, Saint-Chéron, at weekends. He accompanied this team on visits to the Coventry Sport Centre. He visited the Statistics and the Mathematics Departments of Warwick University several times. Assisted by his Ph.D. student J. Najnudel, he gave a series of lecture at Warwick on "Penalisations of Brownian motion" during the autumn term of the academic year 2005/06.

Marc will be remembered by those who met him for his humility, gentleness, generosity, enthusiasm, patience and many other valued human qualities.

Marc will be remembered by the mathematics community as an outstanding mathematician: for his phenomenal work, with more than 350 publications, and his impressive list of co-authors which includes more than 150 different names.

Marc will be remembered by his colleagues and students as being a great professor and supervisor who directed more than 35 Ph. D. students in their first steps in research.

As an example of Marc's supervision/research activities, he ran for a very long time the WIP (Work In Progress) seminar which he created mainly for his Ph.D. students. Many of his students will remember receiving great feedback including questions and comments from Marc and his other former students who were attending the WIP.

In his early career Marc worked on Burkholder-David-Gundy inequalities, the Skorokhod embedding problem and the theory of enlargement of filtrations. Later on, from the early 80's up to his death, he worked on complex Brownian motion (conformal invariance, winding number, etc), inversions of Brownian motions in high dimensions, local times, quadratic and exponential functionals of Brownian motion (Lévy area, Bessel processes, hyperbolic Brownian motions, etc). He also worked on applications of stochastic calculus to Finance (Asian options, Passport options, Double-barrier options, etc).

Marc is known for mastering the modern theory of stochastic processes and having an extraordinary ability to make explicit calculations of probability distributions.

His funeral took place on January 15th in Saint-Chéron.

Marc was a wonderful person and devoted scientist who will be much missed. Our sincere condolences to his family: Carmel, Serge, Kathleen and Geraldine. May his soul rest in peace!

By Larbi Alili, Saul Jacka and Jon Warren

What's on

The Tony Lawrance Seminar

To mark Tony Lawrance's recent retirement, the Statistics Department at Warwick is hosting an afternoon of special seminars.

Proceedings will commence with a lunch at 12.30 followed by an afternoon of seminars from 2pm, and ending with a cheese and wine reception in Tony's honour at 5.30.

Tuesday 25 March
Zeeman Building
(Buffet lunch at 12.30 at Radcliffe House)

For more information, including the registration form, visit:
http://www2.warwick.ac.uk/fac/sci/statistics/news/tonylawranceretirementevent

CRiSM Seminars

CRiSM seminars take place in room A1.01
Thursday 13 March
14:00—16:00
Darren Wilkinson (Newcastle),
Richard Everitt (Reading)

Thursday 27 March
15:00—16:00
Adrian Raftery (Washington)

CRiSM Workshops

Thursday 3 April to Friday 4 April
Survival Analysis for Junior Researchers Conference
Room MS.04

Monday 14 April to Wednesday 16 April

Other Statistics Seminars:

RSS West Midlands Local Group Meetings
Thursday 6 March
17:00—18:00
Zeeman Building, Room A1.01
Alan Girling (University of Birmingham)
"The design of stepped-wedge cluster studies: some statistical thoughts"

Young Researchers' Meeting

Meetings take place on Tuesdays in the Statistics Common Room with organisers Apostolos Gkatzionis and Thomas Honnor.

Tuesday 11 March
16:00—17:00
Maria Veretennikova

Scholarships, studentships, fellowships

The 2014 EPSRC NCSML Awards for PDRA Collaboration

Deadline: **1:00am, 3 March 2014**
http://www2.warwick.ac.uk/fac/sci/statistics/research/csmlnetwork/news

Early Career Fellowships 2014

Deadline: **16:00, 6 March 2014**
http://www.leverhulme.ac.uk/funding/ECF/ECF.cfm

University of Oxford EPSRC Centre for Doctoral Training: Studentships for Doctoral Research

Deadline: **14 March 2014**
http://www.eng.ox.ac.uk/aims