

**ROYAL  
STATISTICAL  
SOCIETY**

**RSS 2010: International conference  
Brighton, 13–17 September 2010  
[www.rss.org.uk/rss2010](http://www.rss.org.uk/rss2010)**

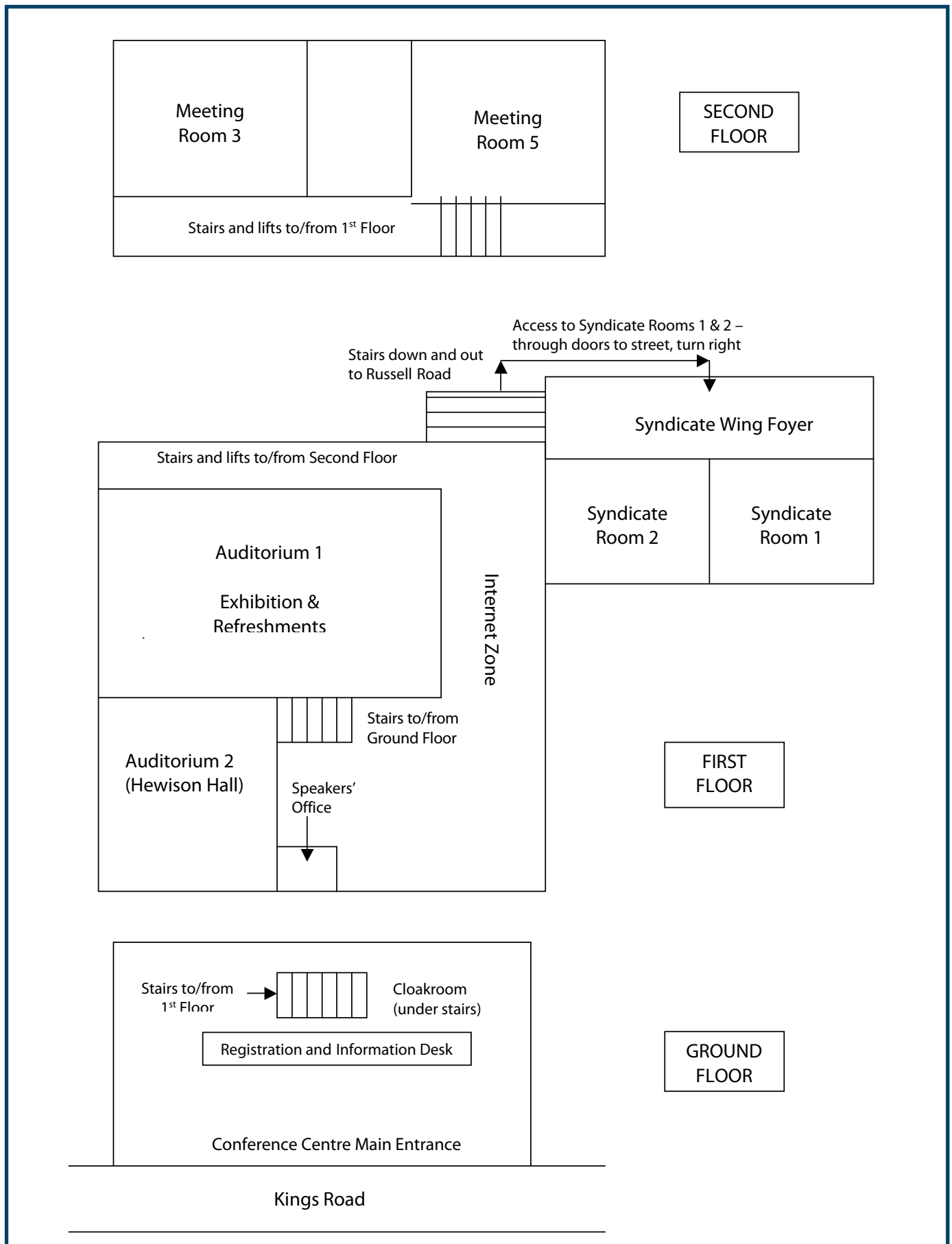
# Directory



Andrew Neri/Stockphoto.com



# RSS 2010: conference floor plan





## Welcome

On behalf of the Programme Committee, I welcome you to Brighton and the 2010 RSS Conference. I hope that your time here 'on the waterfront' will be professionally valuable and personally enjoyable.

In our planning of the programme, we were conscious of both the shared interests and the wide spectrum of professional activities within our Society. As has been highlighted by many individuals previously, this unity and diversity is a great strength of the Society. We hope that our 2010 conference sessions will contribute to your research in specific areas and provide an opportunity to experience and benefit from both our diversity and our unity. In addition, we hope the variety of planned social events will enhance your time at the conference.

I am very grateful for the considerable work of the Programme Committee and Society staff in organising this conference. However, your contributions, through formal presentations, questions and conversations, are central to a successful conference. Thank you for attending.

**Vern Farewell**

Chair, RSS 2010 Conference Programme Committee

## Members of the conference programme committee

**Vern Farewell** (chair), MRC Cambridge

**Deborah Aniyeloye**

Department of Health/Young Statisticians Section

**John Copas**

University of Warwick/Chair RSS 2008 Conference

**Carolyn Craggs**

Consultant/Quality Improvement Section

**Vanessa Didelez**

University of Bristol/Research Section

**Valerie Isham**

University College London/RSS theme director for meetings & conferences

**Frank Nolan**

ONS/Official Statistics Section

**Matthew Sperrin**

University of Manchester

**Angela Talbot**

MRC Cambridge



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## Professional Development Centre

### COURSES

#### Inspirational leadership within a statistical organisation

Aimed at existing and future statistical managers who are required to think and act strategically and who want to improve their leadership capacity.

14-15 October

Duncan Miles and Denis Greer

Sorry, this course is now fully booked

#### Introduction to R/Regression Models in R

Aimed at users of statistics and statisticians in any field who wish to use R for statistical analysis.

3-4 November

Paul Baxter and Andrew Blance

#### Presenting data

Aimed at anyone involved in communicating statistics to non-statisticians or who reports on data – of any description – within organisations, to specific communities and to the general public where a message is being given.

11 November

Ed Swires-Hennessy

#### Multilevel modelling

Designed to give participants a solid grounding in the theory and application of multilevel models. The course will be based around theoretical sessions followed by hands-on sessions illustrating the theoretical concepts. The practical sessions will use the MLwiN software package.

25-26 November

Harvey Goldstein and George Leckie

#### Meta-analysis

This course will be invaluable for all those involved in meta-analysis of pharmaceuticals, whether as consumer or producer, or working for sponsor, regulator, contract research organisation or academia.

9-10 December

Stephen Senn

- ◆ All courses will be held at the RSS
- ◆ For further details visit [www.rss.org.uk/courses](http://www.rss.org.uk/courses) or contact Sarah Barker at the Society – [courses@rss.org.uk](mailto:courses@rss.org.uk) or phone 020 7614 3915
- ◆ Anyone who may be interested in having a training course run at their workplace should contact Sarah for details.

## General information

### Badges

Conference attendees are asked to wear their badges and lanyards at all times while in the Conference Centre and on arrival at the evening social events. Catering staff at the Brighton Centre may not be able to serve individuals who cannot be identified as conference attendees.

Lost badges will be replaced at the discretion of the conference organisers. A replacement fee may be charged.

### Cloakroom

A cloakroom is located on the ground floor next to the information desk.

### Getting to social events

As all the main social events are located along the seafront we will not be organising transport for delegates. Members of the organising team will be available to help guide you to the correct buildings and entrances.

### Internet access

The Brighton Centre provides wi-fi access with a tariff based on usage which can be bought online.

There will also be a small number of computers with free internet access provided in the East Bar adjacent to the exhibition and catering area.

### Local information

You will find information about and a map of the local area in your delegate packs.

### Mobile phones

We ask that you switch off your mobile phones when you are in sessions.

### Online tools

The conference blog can be found at [www.rsscconference.blogspot.com](http://www.rsscconference.blogspot.com) and you can also follow proceedings on Twitter: RSSAnnualConf.

### Photography

The Society will have a photographer taking photographs in most sessions and at social events. The Society may use photographs taken in publications and in future publicity. If you would prefer your photograph not to be used in this way please contact the conference office.

### Refreshments

Lunch as well as tea/coffee on arrival in the mornings, at the mid-morning break and the mid-afternoon break is provided as part of your conference fee. All refreshments will be served in the main hall (auditorium 1). On Friday a packed lunch will be available at the conclusion of the conference.

### Session locations

All sessions will be held in one of 5 rooms on the first and second floors of the Brighton Centre.

### Session timings

- Plenary talks: 30-45 minutes plus time for questions and discussion
- Invited talks: 20-30 minutes plus time for questions and discussions
- Contributed talks: 20 minutes including time for questions and discussion

### Social events

Tickets for pre-booked social events will be supplied in the envelope handed to you with your conference badge. Please note that at the event on Monday evening only light canapés are being served.



8.45am

**Registration opens**  
Ground floor, Brighton Centre

**9am: Young Statisticians' breakfast**  
*Sunrise Restaurant, Brighton Centre*  
Organised by the Young Statisticians Section  
A chance to meet and network with other Young Statisticians at the conference. Featuring hot breakfast rolls and our famous "speed networking" sessions.

10am – 11.20am

**Auditorium 2 (Hewison Hall)**

**Welcome and opening plenary  
(Plenary 1)**

Welcome to the conference by  
David Hand, RSS President

Presentation of an Honorary Fellowship  
to Janet Derbyshire

Plenary talk by Peter Donnelly (University of Oxford)  
*Statistics, Genomics, and Human Diseases*

Auditorium 1 (Main Hall)...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...

11.40am–1pm

**Auditorium 2 (Hewison Hall)**

**Session 1A  
Composite likelihood (INVITED)**

Chair: George Casella  
Discussant: Nancy Reid

*An overview of composite likelihood methods*  
Cristiano Varin\*, Nancy Reid, David Firth

*Statistical inference for space-time extremes*  
Anthony Davison

**Syndicate 1 (East Wing)**

**Session 1B  
Data sources for climate science  
(INVITED)**

*Representing species groupings and spatiotemporal structure in the continuous plankton recorder data using sparse models*  
Victoria Harris\*, Sofia Olhede

*From archives to weather to climate change; confidence and uncertainties in the surface temperature record.*  
Philip Brohan

*Quantifying uncertainty on chronologies for ice core palaeoclimate records*  
Caitlin Buck

Auditorium 1 (Main Hall)...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch

coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...

**Syndicate 2 (East Wing)**

**Session 1C  
Statistics & Law (INVITED)**

Colin Aitken and Roberto Puch-Solis followed by discussion of the work of the Society's Statistics & the Law working group

**Meeting Room 3 (2nd Floor)**

**Session 1D - Genomics  
(CONTRIBUTED)**

*Sparse principal components based on semi-divisive clustering of variables*  
Doyo Gagn Enki\*, Nickolay T. Trendafilov

*Filtering, FDR and power*  
Renee Menezes\*, Maarten van Iterson, Judith Boer

*Hierarchical functional principal components analysis for microarray time series*  
Giovanni Montana, Maurice Berk\*

*Statistical methods for the integration of several microarray data sets*  
Leila Mohammadi\*, Renee Menezes, Monique den Boer

**Meeting Room 5 (2nd Floor)**

**Session 1E - Bayesian applications (CONTRIBUTED)**

*Using Bayesian statistical methods to assist in the diagnosis of child abuse*  
Nicky Best\*, Deborah Ashby, Frank Dunstan, David Foreman, Neil McIntosh

*Bayesian credibility models for general insurance and its applications*  
Dilip Nath\*, Prasenjit Sinha Sinha

*Bayesian inference for partially observed stochastic epidemics conditioned on their final size*  
Simon White

*Bayes linear learning about large industrial systems*  
David Randell\*, Michael Goldstein, Philip Jonathan

...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...

2pm–3.20pm	<p style="text-align: center;"><b>Auditorium 2 (Hewison Hall)</b></p> <p style="text-align: center;"><b>Session 2A</b> <b>Adaptive clinical trials (INVITED)</b></p> <p><i>Blinded information-based monitoring of clinical trials</i> Tim Friede*, Frank Miller</p> <p><i>A graphical approach to hypothesis testing in adaptive Phase II/III clinical trials</i> Martin Posch</p>	<p style="text-align: center;"><b>Syndicate 1 (East Wing)</b></p> <p style="text-align: center;"><b>Session 2B</b> <b>Biodiversity (INVITED)</b></p> <p><i>Some statistical challenges in biodiversity research</i> Robert Bagchi</p> <p><i>Spatial point pattern analysis to infer underlying ecological process</i> Calum Brown*, Janine Illian, David Burslem, Richard Law</p> <p><i>Estimation of species numbers from discovery curve data</i> Simon Wilson*, Brett Houlding, Mark Costello</p>
<p>Auditorium 1 (Main Hall)...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...</p>		
3.40pm–5pm	<p style="text-align: center;"><b>Auditorium 2 (Hewison Hall)</b></p> <p style="text-align: center;"><b>Session 3A</b> <b>Models of epidemiology &amp; immunology (INVITED)</b></p> <p><i>Epidemics on random networks incorporating household structure</i> Frank Ball</p> <p><i>Familial correlation structures in the adaptive immune response.</i> Ken Duffy</p> <p><i>Thresholds for epidemics on graphs</i> Ayalvaldi Ganesh</p>	<p style="text-align: center;"><b>Syndicate 1 (East Wing)</b></p> <p style="text-align: center;"><b>Session 3B</b> <b>Biodiversity/Climate change (CONTRIBUTED)</b></p> <p><i>to global temperature observations</i> Magne Aldrin*, Marit Holden, Peter Guttorp</p> <p><i>Spatio-temporal modelling of daily air temperature in Catalonia</i> Marc Saez*, Maria Barcelo, Aurelio Tobias, Diego Varga, Ricardo Ocaña-Riola</p> <p><i>Discovering traits that explain species response to environmental gradients: a generalised linear mixed model approach</i> Tahira Jamil*, Cajo ter Braak</p>
5pm–7pm	<p style="text-align: center;"><b>POSTER RECEPTION: Auditorium 1 (Main Hall) See page 21 for title list. Please refer to the insert in your programme.</b></p>	
7.30pm	<p style="text-align: center;"><b>Social: On the Pier</b></p>	



**Syndicate 2 (East Wing)**

**Session 2C  
Statistics & Law  
(CONTRIBUTED)**

*Communication and interpretation of statistical evidence in the administration of criminal justice*  
Colin Aitken

*Retention and disclosure of old criminal records - data protection or protecting the public?*

Brian Francis\*, Keith Soothill

*Non-likelihood ratio based evidence evaluation*  
David Lucy

*The evaluation of evidence relating to traces of drugs on banknotes*  
Colin Aitken\*, Amy Wilson,  
Richard Sleeman

**Meeting Room 3 (2nd Floor)**

**Session 2D - Composite likelihood  
(CONTRIBUTED)**

*Limited and full information estimation methods for factor analysis models for longitudinal ordinal variables.*

Vassilis Vasdekis, Silvia Cagnone,  
Irimi Moustaki\*

*Composite likelihood and two-stage estimation in family studies*  
Elisabeth Andersen

*Adjusted composite likelihood simulations.*  
Simon Harden\*, Richard Chandler

**Meeting Room 5 (2nd Floor)**

**Session 2E - Statistical methods  
(CONTRIBUTED)**

*Mixed paired comparisons models*  
Manuela Cattelan\*, Cristiano Varin

*Stereological methods to estimate volume and surface area: association between Broca's area, musical skills and cognitive function*

Christopher Cheyne\*, Vanessa Sluming,  
Marta García-Fiñana

*Approximating multivariate distributions with vines*  
Alireza Daneshkhan\*, Tim Bedford

*On the comparison of some response surface designs in spherical region under the G- and I-Optimality criteria*  
Polycarp Chigbu\*, Eugene Ukaegbu

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**Syndicate 2 (East Wing)**

**Session 3C  
Adaptive clinical trials  
(CONTRIBUTED)**

*A hybrid Classical-Bayesian framework for the design and analysis of 2-stage clinical trials with multivariate responses. Applications to fMRI trials*

Giorgos Minas\*, Fabio Rigat, Thomas Nichols, John Aston, Nigel Stallard

*Stochastic curtailed two-stage designs for Phase II trials with one or two binary endpoints*

Cornelia Ursula Kunz\*, Meinhard Kieser

*Evaluating the therapy-treatment interaction in clinical trials of antihypertensive drugs by the propensity score weighting method*  
Yosuke Fujii, Masayuki Henmi\*,  
Toshiharu Fujita

**Meeting Room 3 (2nd Floor)**

**Session 3D  
Performance indicators  
(CONTRIBUTED)**

*Effectiveness of external quality assurance surveillance systems in the benchmarking of German hospitals.*

Nicholas Lack

*Valid indicators of serious injury incidence: What can we learn from the New Zealand experience?*

Colin Cryer

*Labour market outcomes of university graduates and the role of contextual factors: a multilevel analysis*

Matilde Bini\*, Leonardo Grilli,  
Carla Rampichini

**Meeting Room 5 (2nd Floor)**

**Session 3E - Biometry  
(CONTRIBUTED)**

*Estimating the size of floating sex workers in selected urban areas in Bangladesh using capture-recapture method*

M. Mazharul Islam

*Model-based plot sampling of seedling stands*

Aki Niemi

*Statistical methods for linking motivational priorities and welfare indicator approaches to animal welfare assessment*

William Browne\*, Gina Caplen, Jo Edgar,  
Christine Nicol

*Capture-recapture inference under structured heterogeneity*  
Dankmar Böhning

...back for the final order of display.



**Syndicate 2 (East Wing)**

**Session 4C  
Medical (CONTRIBUTED)**

*Estimation of life expectancy for lung transplantation*  
Qing Wang\*, Linda Sharples, Nikolaos Demiris

*Potential bias in the accuracy of a diagnostic or screening test when errors in the test and its reference standard are correlated*  
Stephen Walter

*Exploring uncertainty in dynamic models: application to continuous glucose monitoring in insulin therapy*  
David Lunn\*, Chen Wei, Roman Hovorka

*How large should a pilot study for a randomised controlled trial be?*  
Julius Sim\*, Martyn Lewis

**Meeting Room 3 (2nd Floor)**

**Session 4D - Econometrics  
(CONTRIBUTED)**

*Asymmetric time aggregation and its potential benefits for forecasting annual data*  
Philip Hans Franses, Robert M. Kunst\*

*The random discontinuity design in epidemiology*  
Sara Geneletti\*, Gianluca Baio

*Can the weather help to explain volatility in retail sales?*  
Robert Gilhooly

*Some statistical aspects of volatility in time series*  
Anthony Lawrance

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**Syndicate 2 (East Wing)**

**Session 5C  
Building trust in statistics (CONTRIBUTED)**

*Building trust: accreditation and the Professionalisation of statistics*  
Ron Wasserstein

*Public confidence in Official Statistics Survey 2009*  
Alun Humphrey\*, Rossy Bailey, Josie Rofique

*Statistical critique of 203 Home Office press releases from February to September in 2008 and 2009*  
Sheila Bird

**Meeting Room 3 (2nd Floor)**

**Session 5D - Survey methodology  
(CONTRIBUTED)**

*Providing good quality data on sub-groups: the Citizenship Survey Muslim boost*  
Philippa Robinson\*, Suzanne Cooper

*Use of administrative data for short term business surveys in the UK*  
Craig Orchard\*, Gareth James

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<p>2pm-3.15pm</p>	<p style="text-align: center;"><b>Auditorium 2 (Hewison Hall)</b></p>	
	<p style="text-align: center;"><b>Plenary 3</b> An introduction to the Society's GetStats campaign followed by:</p>	<p style="text-align: center;">Statistical Engineering Tim Davis</p>
<p>Auditorium 1 (Main Hall)...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...</p>		
<p>3.30pm-4.50pm</p>	<p style="text-align: center;"><b>Auditorium 1 (Main Hall)</b></p> <p style="text-align: center;"><b>Session 6A</b> <b>Retrospective Read Paper (INVITED)</b></p> <p>The session will commence with the presentation of the Guy Medal in Bronze to Omiros Papaspiliopoulos</p> <p style="text-align: center;"><i>Regression shrinkage and selection via the lasso</i> Robert Tibshirani</p>	<p style="text-align: center;"><b>Syndicate 1 (East Wing)</b></p> <p style="text-align: center;"><b>Session 6B</b> <b>2011 UK Census (INVITED)</b></p> <p style="text-align: center;"><i>The 2011 Census internet questionnaire</i> Sue Dalton*, Alexa Courtney</p> <p style="text-align: center;"><i>Statistical disclosure control and the 2011 Census</i> Carole Abrahams and Caroline Tudor</p> <p style="text-align: center;"><i>2011 Census outputs design and user requirements</i> Joe Traynor</p>
<p>5pm-6pm</p>	<p style="text-align: center;"><b>Auditorium 2 (Hewison Hall)</b></p> <p style="text-align: center;"><b>Session 7A</b> <b>Building trust in statistics (INVITED)</b></p> <p><i>The survey of Public Confidence in Official Statistics carried out for the UK Statistics Authority showed that 'television and newspapers remain the most common sources of information used to form opinions'. When asked if newspapers presented figures honestly, the majority (61 per cent) disagreed. The importance of the media to building trust in statistics is clear. This session will hear about the development of the Making Sense of Statistics booklet for journalists produced by Sense about Science in collaboration with Straight Statistics and the RSS. The session will also hear about the innovative work of the Guardian's Datablog which takes publicly available data and presents and interprets it in ways that are readily accessible to the public. The work of the Society in promoting good statistical reporting will also be reported, including its workshops for journalists and its awards for statistical excellence in journalism</i></p> <p style="text-align: center;">Leonor Sierra, Sense about Science Simon Rogers, Guardian Datablog Andrew Garratt, Royal Statistical Society</p>	<p style="text-align: center;"><b>Syndicate 1 (East Wing)</b></p> <p style="text-align: center;"><b>Session 7B</b> <b>General (CONTRIBUTED)</b></p> <p style="text-align: center;"><i>Web analytics - a new statistical domain?</i> Paul Askew</p> <p style="text-align: center;"><i>Modelling unknown exposure data for road traffic accident analysis</i> Louise Walter</p> <p style="text-align: center;">A statistician plays darts Ryan Tibshirani*, Andrew Price, Jonathan Taylor</p>
<p>7pm till late</p>	<p style="text-align: center;"><b>Young Statisticians Evening Social</b> Vodka Attic Revolution Bar, 77 West St, Brighton BN1 2RA</p>	

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**Syndicate 2 (East Wing)**

**Session 6C  
Primary Health Care (INVITED)**

*Evaluation of diagnostic and prognostic (bio)markers and prediction models: from development to implementation.*  
Karel Moons

*Title TBC*  
Richard Stevens

*Title TBC*  
Jonathan Cook

**Meeting Room 3 (2nd Floor)**

**Session 6D  
Learning from statistical education (INVITED)**

*Cornish pasties and learning from teaching statistics*  
Neville Davies\*, John Marriott

**Syndicate 2 (East Wing)**

**Session 7C  
Risk (CONTRIBUTED)**

*Penalised likelihood estimators for truncated data*  
Eric Cope

*Generalised extreme value regression: an application to defaults in credit risk analysis*  
Raffaella Calabrese\*, Silvia Angela Osmetti

**Meeting Room 3 (2nd Floor)**

**Session 7D - Systematic reviews (CONTRIBUTED)**

*An Australian perspective on type 2 diabetes mellitus, cardiovascular disease risk factors and reduction strategies based upon evidence based medicine and expert opinion.*  
Deborah Hilton

*Predicting the extent of heterogeneity in meta-analysis, using empirical data from Cochrane reviews*  
Rebecca Turner\*, Jonathan Davey, Mike Clarke, Julian Higgins

*Bayesian meta-analysis for longitudinal models*  
Eleni Bakra\*, Fiona Matthews

9.10-10.10am

**Auditorium 2 (Hewison Hall)**

**Session 8A**

**Best of YSM 2010 (INVITED)**

*Syndromic surveillance of 'influenza-like' illness in Scotland during the Influenza A H1N1v pandemic.*

Kimberley Kavanagh\*, Chris Robertson,  
Jim McMenamin

*Denoising UK house prices*

Andrew Smith

*Graphical augmentations to the Funnel Plot in order to assess the potential impact of further evidence in meta-analysis*

Dean Langan\*, Alex Sutton, Julian Higgins,  
Walter Gregory

**Syndicate 1 (East Wing)**

**Session 8B**

**Machine learning (CONTRIBUTED)**

*Modelling the behaviour of opponents in the Lemonade Stand Game*

Adam M Sykulski\*, Archie C Chapman, Enrique Munoz de Cote, Nicholas R Jennings

*Bayesian inference of mixture of hidden Markov models for internet browsing behaviour*

Amin Jamalzadeh\*, David A Wooff

*Adaptive filtering for state-space identification and state estimation*

Niall Adams, Christoforos Anagnostopoulos, Dimitris Tasoulis, Elena Ehrlich\*

10.15am  
-11.20am

**Auditorium 2 (Hewison Hall)**

**Plenary 4**

*The role of likelihood in statistical science*

Nancy Reid

Auditorium 1 (Main Hall)...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...

11.40am-1pm

**Auditorium 2 (Hewison Hall)**

**Session 9A**

**Risk (INVITED)**

*Optimal asset management*

Jonathan Ansell

*Soft systems and risk assessment*

Martin Newby

*Title TBC*

Alan Kimber

**Syndicate 1 (East Wing)**

**Session 9B**

**Statistical literacy (CONTRIBUTED)**

*Explaining p to an MP: presenting statistics to the lay reader*

Andrew Epps\*, Nick Ormiston-Smith, Ah Mun Kuan,  
Caroline Harper

*Communicating the value of statistical thinking in training researchers from other disciplines*

Gillian Lancaster

*Current challenges and directions in teaching statistics to promote statistical literacy*

Svetlana Tishkovskaya\*, Gillian Lancaster

*Statistical literacy for citizenship: the role of descriptive statistics*

Thomas King\*, Clare Woodford

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## Syndicate 2 (East Wing)

**Session 8C  
Risk (CONTRIBUTED)**

*Does smoking present a greater mortality risk to women than to men? Findings from 40 years of the British Cotton Workers' Cohort.*  
Margaret Hurley\*, Damien McElvenny

*Multifactorial genetic disorders and adverse selection: epidemiology meets economics*  
Pradip Tapadar\*, Angus Macdonald

## Meeting Room 3 (2nd Floor)

**Session 8D  
Health/medical (CONTRIBUTED)**

*The sad history of formula funding for the NHS (and the role of the Royal Statistical Society).*  
Jane Galbraith\*, Mervyn Stone

*A parametric quantile regression approach to the conditional generalised gamma distribution.*  
Angela Noufaily\*, Chris Jones

*Comparing treatment policies in early epilepsy through the joint modelling of pre-randomisation event rates and multiple post-randomisation survival times with cure rates.*  
Jennifer Rogers\*, Jane Hutton

Meeting Room 5  
(2nd Floor)

9.30–11.30am

**Reaching wider audiences workshop**

**Booking required, contact the GetStats stand**

coffee...

## Syndicate 2 (East Wing)

**Session 9C  
Biostatistics (CONTRIBUTED)**

*Analysis of overdispersed Poisson data: how important is the choice of overdispersion model?*  
Philip Dixon

*A marginalized conditional linear model for longitudinal binary data with continuous-time informative dropout*  
Li Su

*Using multiple imputation: a step-by-step practical example using a malaria indicator survey*  
Andrea Rehman\*, Chris Schwabe, Immo Kleinschmidt

*Using discrete time survival models to model breakdown with TB of cattle using the Randomised Badger Culling Trial dataset*  
William Browne\*, Laura Green, Graham Medley, Camille Szmarağd

## Meeting Room 3 (2nd Floor)

**Session 9D - Signal processing (CONTRIBUTED)**

*Detecting safety signals in longitudinal toxicity data*  
Friederike Barthel\*, Alaknanda Preston, Laura Budde

*Statistical analysis of coherence for certain non-stationary bivariate processes via wavelets*  
Edward Cohen\*, Andrew Walden

*Estimation of graphical interaction models for multivariate time series*  
Chloe C. Chen\*, Andrew T. Walden

## Meeting Room 5 (2nd Floor)

**Session 3E Evidence-based policy (CONTRIBUTED)**

*The application of interrupted time series to evaluate the impact of government-set time targets on patient care and outcomes in emergency care*

Jenny Freeman\*, Suzanne Mason, Susan Croft, Chris Yap, Susan Cross

*Structural uncertainty in health economic decision models*

Christopher Jackson\*, Linda Sharples, Simon Thompson

*Modelling the growth of Abdominal Aortic Aneurysms (AAA) using mixed effects regression with autocorrelated residuals.*  
Paul Baxter

*IMPACT2: A policy model for chronic disease*  
Nathan Green\*, Matthew Sperrin, Duncan Smith, Iain Buchan

lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch...lunch

2pm-3.20pm

**Auditorium 2 (Hewison Hall)**

**Session 10A  
Inspiring statistics (INVITED)**

*Statistics the UK needs*  
Jason Bradbury

*The expansion of the UK statistical system - a model  
for engagement*  
Andy Sutherland

*Common issues identified from UK Statistics  
Authority's assessments*  
Richard Laux

**Syndicate 1 (East Wing)**

**Session 10B  
Financial statistics (INVITED)**

*Bank of England statistics before, during, and after the  
financial crisis.*  
Mark Robson

*Issues in credit scoring*  
Jonathan Ansell

**Meeting Room 8 (3rd Floor): 2pm-4.30pm  
Employers' Roundtable (Invitation only)**

Auditorium 1 (Main Hall)...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...

3.40pm-4.40pm

**Auditorium 2 (Hewison Hall)**

**Session 11A  
Opinion polling in the 2010  
UK general election  
(INVITED)**

*Pre-election voting intention polls in the 2010  
election campaign*  
Anthony Wells

*Getting it right on the night: the 2010 exit poll*  
Jouni Kuha

Paul Whiteley

**Syndicate 1 (East Wing)**

**Session 11B  
Financial & economic statistics  
(CONTRIBUTED)**

*The Effect of estimation in high-dimensional portfolios*  
Axel Gandy\*, Luitgard Veraart

*Adaptive consumer credit classification*  
Nicos Pavlidis\*, Niall Adams, David Hand

*Employment retention in the recession: microeconomic  
effects of the Short-Time Work Programme in Germany*  
Stefan Speckesser

4.50pm-6pm

**Auditorium 2 (Hewison Hall)**

**Plenary 5**

*Predicting spatio-temporal credit default rates*  
Robert Stine

8pm (welcome  
drinks from  
7pm)

**Social: Conference dinner, Holiday Inn, Brighton Seafront**



**Syndicate 2 (East Wing)**

**Session 10C  
Best of the RSS Journals (INVITED)**

*Children's educational progress: partitioning family, school and area effects*  
George Leckie

*Estimating infectious disease parameters from data on social contacts and serological status*  
Nele Goeyvaerts

*Tilting methods for assessing the influence of components in a classifier*  
Jing-Hao Xue\*, Michael Titterington, Peter Hall

**Meeting Room 3 (2nd Floor)**

**Session 10D  
Primary Health Care  
(CONTRIBUTED)**

*Modelling obesity and underweight status in Leeds schoolchildren*  
Claire Griffiths, Paul Marchant\*, Carlton Cooke, Paul Gately

*Latent trajectory modelling of multimorbidity profiles over time*  
Yuchun V Peng\*, Kelvin P Jordan, Umesh T Kadam, Peter W Jones

*Adjusting for different kinds of covariates in a complex multi-level regression analysis: a case study using General Practice Research Database data on patient consultations in primary care.*  
David Reeves\*, Evangelos Kontopantelis, Timothy Doran

**Meeting Room 5 (2nd Floor)**

**Session 10E – Statistical methods (CONTRIBUTED)**

*Inferences on extreme events from data at multiple sampling frequencies*  
Adam Butler\*, Chris Glasbey

*Exact Monte Carlo simulation for Fork-Join networks*  
Hongsheng Dai

*Supervised sampling for clustering large data sets*  
Ioannis Kosmidis\*, Dimitris Karlis

coffee...

**Syndicate 2 (East Wing)**

**Session 11C  
Teaching statistics (CONTRIBUTED)**

*Using screen capture to support students learning*  
Thomas Jaki

*The more or less archive: a resource for teaching the more and less statistically literate*  
Neil Spencer

*Personal response systems for teaching postgraduate statistics to small groups*  
Andrew Titman\*, Gillian Lancaster

**Meeting Room 3 (2nd Floor)**

**Session 11D  
User groups (CONTRIBUTED)**

The Water Statistics User Group will give a short presentation to inform other statisticians of who they are, what they do and outline some of the problems they face.

**Meeting Room 5 (2nd Floor)**

**Session 11E –  
Epidemiology/public health  
(CONTRIBUTED)**

*Group based trajectory approaches to analysing large longitudinal studies of public health in Australia.*  
Peter Baker\*, Gail Williams

*Compact cluster sampling using PDAs to estimate malaria prevalence on Bioko Island, Equatorial Guinea: a cross-sectional survey*  
Andrea Rehman\*, Immo Kleinschmidt, Chris Schwabe

9.30am–  
10.50am

**Auditorium 2 (Hewison Hall)**

**Session 12A  
Important topics in genetics (INVITED)**

*Fine mapping of casual HLA variants using penalised regression.*  
David Balding

*Genotype imputation using thousands of genomes*  
Bryan Howie, Jonathan Marchini\*, Matthew Stephens

*Risk prediction algorithms for familial breast cancer: translating genetic research into clinical applications.*  
Antonis Antoniou

**Syndicate 1 (East Wing)**

**Session 12B  
Performance indicators (INVITED)**

*Nationwide hospital outcomes monitoring using statistical process control*  
Alex Bottle

*Issues in measuring the quality of healthcare.*  
Veena Raleigh

*Health Performance Indicators: their risks and benefits*  
Stephen Evans

*Performance indicators: service indicators or system indicators?*  
Jon Nicholl

Auditorium 1 (Main Hall)...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...coffee...

11.10am  
–12.10pm

**Auditorium 2 (Hewison Hall)**

**Session 13A  
History of statistics  
(INVITED/CONTRIBUTED)**

*A past master of a modern art: Maurice Kendall's 1953 paper 'The Analysis of Economic Time-Series-Part I: Prices'*  
Ian Hunt

*Interpreting changing inequalities in maternal mortality since the early twentieth century: artefact, gradient, or precipice?*  
Alison Macfarlane

*From Statistical Society of London to 'Significance' – a brief overview of the history of the RSS*  
Janet Foster

**Syndicate 1 (East Wing)**

**Session 13B  
National Audit Office  
(CONTRIBUTED)**

*Quantitative analysis of the academies programme*  
Mark Bisset, Frazer Clark, Ian Cockburn, Ah Mun Kuan\*, Jonathan Mackay

*Evaluation of Sure Start children's centres*  
Richard Douglas, Andrew Epps, Angela Hands, Ah Mun Kuan\*, Victoria Lasore, Sarah Perryman, Baljinder Virk, Paul Wright-Anderson

*Helping over indebted consumers*  
Ah Mun Kuan\*, Charlie Gluckman

12.15–1.35pm

**Auditorium 2 (Hewison Hall)**

**Plenary 6 – Significance**

*Significance: magazine, website – world domination? A mild hope for the future.*  
Julian Champkin

*Statistical shenanigans: from Sweet Peas to Nobel Prizes, how much that we take for granted ain't necessarily so?*  
Danny Dorling

*Bang goes the theory: science and statistics on popular TV.*  
Yan Wong

Close of conference. Packed lunch available for collection from Auditorium 1.

Syndicate 2 (East Wing)

**Session 12C**  
**Census/population surveys**  
**(CONTRIBUTED)**

*Towards a fully adjusted census database for the 2011 census*

Christine Sexton\*, Alan Taylor, James Brown

*Beyond 2011: population statistics for the future*

Roeland Beerten\*, Louise Morris, Paul Tutton

*Standard error estimation for measures of population change over time from repeated surveys*

Yves Berger\*, Rodolphe Priam, Pedro Silva

coffee...coffee...coffee...coffee...coffee...coffee...coffee...

Syndicate 2 (East Wing)

**Session 13C**  
**Medical**  
**(CONTRIBUTED)**

*Survival modelling via generalised estimating equations*

Daniel Farewell

*An evaluation of penalised survival methods for developing prognostic models with rare events*

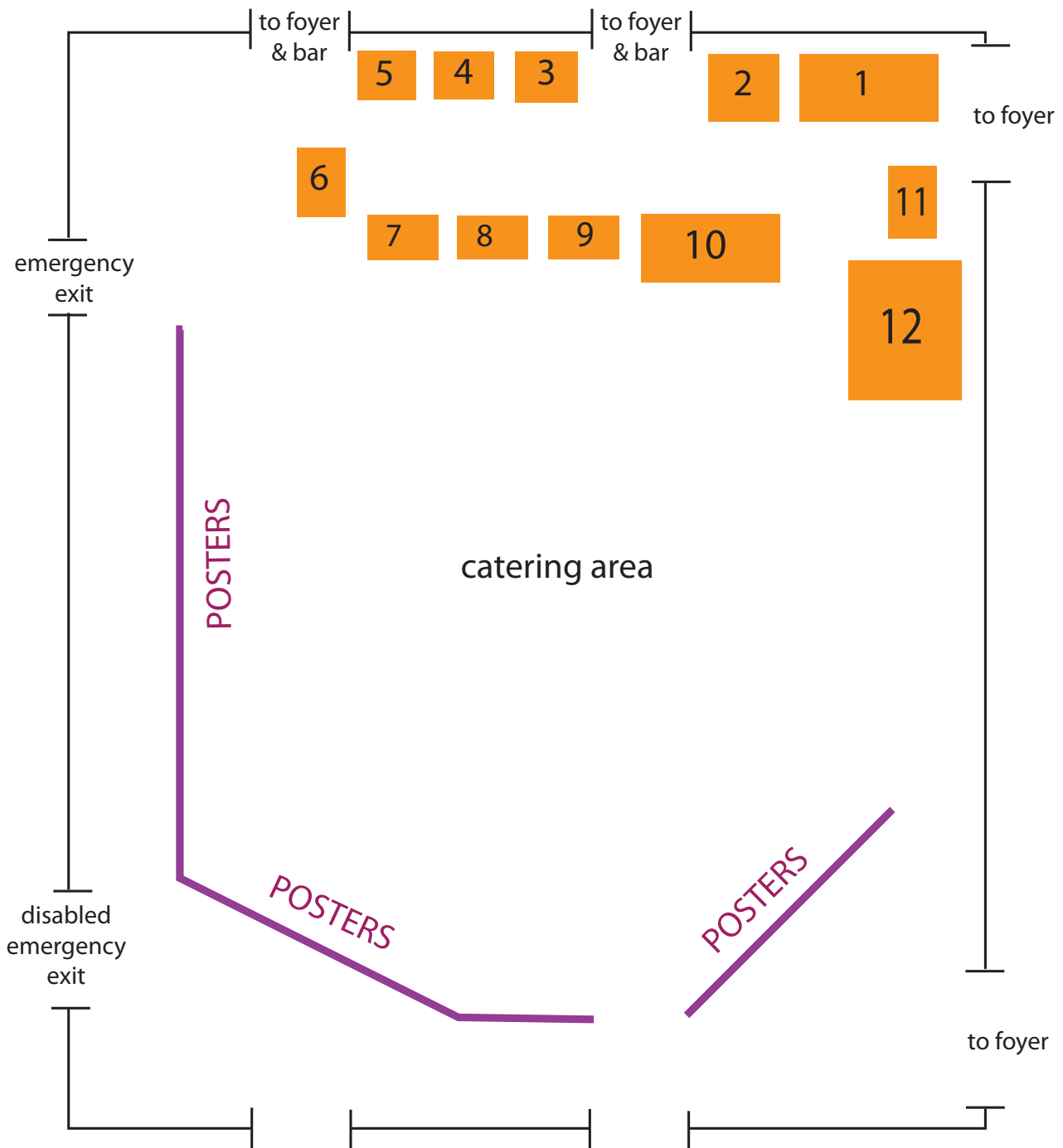
Gareth Ambler\*, Shaun Seaman, Rumana Omar

*Survival extrapolation in the presence of cause specific hazards*

Tatiana Benaglia\*, Christopher Jackson, Linda D Sharples



Buckets and spades available on the beach.



**Key to exhibitors**

- 1 Royal Statistical Society
- 2 Wolfram (Wednesday/Thursday)
- 3 NAG (Wednesday)/Taylor & Francis (Thursday)
- 4 PSI
- 5 Timberlake Consultants (Tuesday/Wednesday)
- 6 Emerald Group Publishing

- 7 Oxford University Press (Tuesday/Wednesday)
- 8 ESRC National Centre for Research Methods (Tuesday/Wednesday)
- 9 Postgraduate Statistics Centre Lancaster
- 10 Wiley-Blackwell
- 11 Office for National Statistics
- 12 GetStats

## List of posters (Tuesday 5pm–7pm)

An opportunity to view the poster presentations on display and discuss their work with the authors over a glass of wine.

**On the impact of inflation and exchange rate on conditional stock market volatility: a re-assessment**

Olaoluwa S Yaya\*, Olanrewaju I Shittu

**The Family Resources Survey: main uses and future developments**

Julie Sullivan\*, Edward Smithson, John Snow, Nick Adams

**The evaluation of an online learning environment for facilitating statistics learning**

Jenny Freeman\*, Martine Delbauve, Emma Sutton, Elouise Thompson

**Supporting statistics in schools - a fresh approach in Queensland by a Parent Support Group and the Statistical Society**

Miranda Mortlock

**Correlations between question responses in a survey of ovarian cancer awareness**

Jessica Barrett\*, Lesley Fallowfield, Anne Fleissig

**Exploring the nature of seasonality in marine biological data**

Traiani Stari\*, Eddie McKenzie, Steve Hay

**Assessing the effect of informative censoring in piecewise parametric survival models**

Natalie Staplin

**Estimating badger numbers from badger survey signs, with applications to bovine TB prediction**

Camille Szmargd\*, Laura Green, Graham Medley, Andy Mitchell, William Browne

**Public attitudes and behaviours towards the environment**

Kerry O'Neill\*, Alex Thornton

**Refining bootstrap methods in dependent data structures: is there room for improvement?**

Giancarlo Manzi

**Environmental Factors affecting Health in India**

Kishore K Das

**Gaussian process emulation for second-order Monte Carlo simulations**

Jill Johnson\*, John Paul Gosling, Marc Kennedy

**Australian literature and dataset review comparing rugby union [RU] to rugby league [RL] spinal injury incidence rate or odds ratios and scrum law sequence changes**

Deborah Hilton

**Outlier detection in discrete distributions**

Fiona McElduff\*, Angie Wade, Mario Cortina-Borja

**Information capacity designs for generalised linear models**

Taryn Swan\*, James McGree, Susan Lewis, Dave Woods

**Consultation on the 2011 samples of anonymised records (SARs)**

Sam Smith\*, Jo Wathan, Ed Fieldhouse

**Surveys for needs assessment for planning eye care services – consideration of design effect and intra-class correlation**

Selvaraj Sivasubramaniam\*, Stephen Bremner, Clare Gilbert

**Statistical analysis on economic burden of malaria in a rural household: a case study of Osun State, Nigeria**

Abiola Okunlade\*, Gbenga Akindele, Olaniyi Olayiwola

**Fertility and its proximate determinants In Oman**

M Mazharul Islam\*, Atsu S S Dorvlo

**Exploring the use of leverage tools to improve treatment adherence in England's community mental health care**

Maria Vazquez-Montes\*, Ksenija Yeeles

**Demographic transitions in Bangladesh and the emerging windows of opportunities and challenges**

M Mazharul Islam

**Working as an applied statistician in Primary Care and General Practice**

Andrea Roalfe\*, Sayeed Haque, Roger Holder

**Learning by looking: enhanced data investigation utilizing visual display techniques**

Wendy Dickinson

**Statistical analysis for health-care decisions: a case study on a clinical survey concerning STEMI patients**

Francesca Ieva\*, Anna Maria Paganoni

**Left ventricular hypertrophy [LVH] diagnosis: a systematic review and the effect of publication bias.**

Deborah Hilton

**Flexible parametric versus non-parametric adjustment methods for covariate measurement errors in logistic regression**

Zahirul Hoque\*, Shahadut Hossain

**On diffusion processes with Gaussian marginals**

Syeda Rabab Mudakkar\*, Sergey Utev

**Using multiple independent combinations of genetic variants to strengthen causal inference in Mendelian randomisation studies: height and lung function as an example.**

Tom Palmer\*, David Evans, George Davey Smith

**Is breast volume asymmetry a risk factor for breast cancer in healthy women - conflicting results from a case-control and cohort study**

Andrew Titman\*, Gillian Lancaster, Diane Scutt

**Cardiovascular risk factors for South Asian, Africa-Caribbean and other minority people living in England - a Black Country heath survey**

Ruoling Chen\*, Patricia Bond, Hilary Paniagua, Jill Evans, Carol Reilly

**Incidence and predictors of diabetes in an elderly population who were poor but with high levels of social support and low levels of cardiovascular risk and depression, and have recently had rapid economic improvements**

Ruoling Chen\*, Zhi Hu, Zhuming Liu, Yiqing Song

**Concentration risk in credit portfolios**

Rutang Thanawalla

**Exact distributions and sequential Monte Carlo for change points**

Christopher Nam\*, John Aston, Adam Johansen

**Census rehearsal 2009**

Tom Gerlach\*, Zoe Hartland, Justin Anderson, Marie Lisa Burrough, Mahari Tikabo

## Thanks and acknowledgements to those responsible for organising the conference

### Members of the conference programme committee

Vern Farewell (chair)  
MRC Cambridge

Deborah Aniyeloye  
Department of Health / Young  
Statisticians Section

John Copas  
University of Warwick / Chair RSS 2008  
Conference

Carolyn Craggs  
Consultant/Quality Improvement  
Section

Vanessa Didelez  
University of Bristol / Research Section

Valerie Isham  
University College London / RSS theme  
director for meetings & conferences

Frank Nolan  
ONS / Official Statistics Section

Matthew Sperrin  
University of Manchester

Angela Talbot  
MRC Cambridge

### RSS Staff and stewards

Paul Gentry, Sarah Barker, Mawreen Chapman, Teresa Dewane, Andrew Hunter, Abdel Khairoun, Anna Mair, Sarah Simpson, Charlotte Stovell, Toni Young and fellow staff at the Royal Statistical Society. Also to Paul Baxter, Simon Harden and Adele Marshall for stewarding.

### Production

Rachel Hedley, Gareth Glynn and colleagues at Wild Strawberry Communications ([www.wildstrawberry.uk.com](http://www.wildstrawberry.uk.com)) for publication design and production

Paul Arrowsmith and colleagues at Mills Media Group ([www.millsmediagroup.com](http://www.millsmediagroup.com)) for AV support

### Venue

Colin McEvoy and colleagues at the Brighton Centre.

Amy Hollis and colleagues at Kudos Catering.

Judith Sturges, Nicola Collins and colleagues at Visit Brighton.





Errol Street EC1 provides a light, airy and flexible venue, whatever event you are organising.



## Venue hire

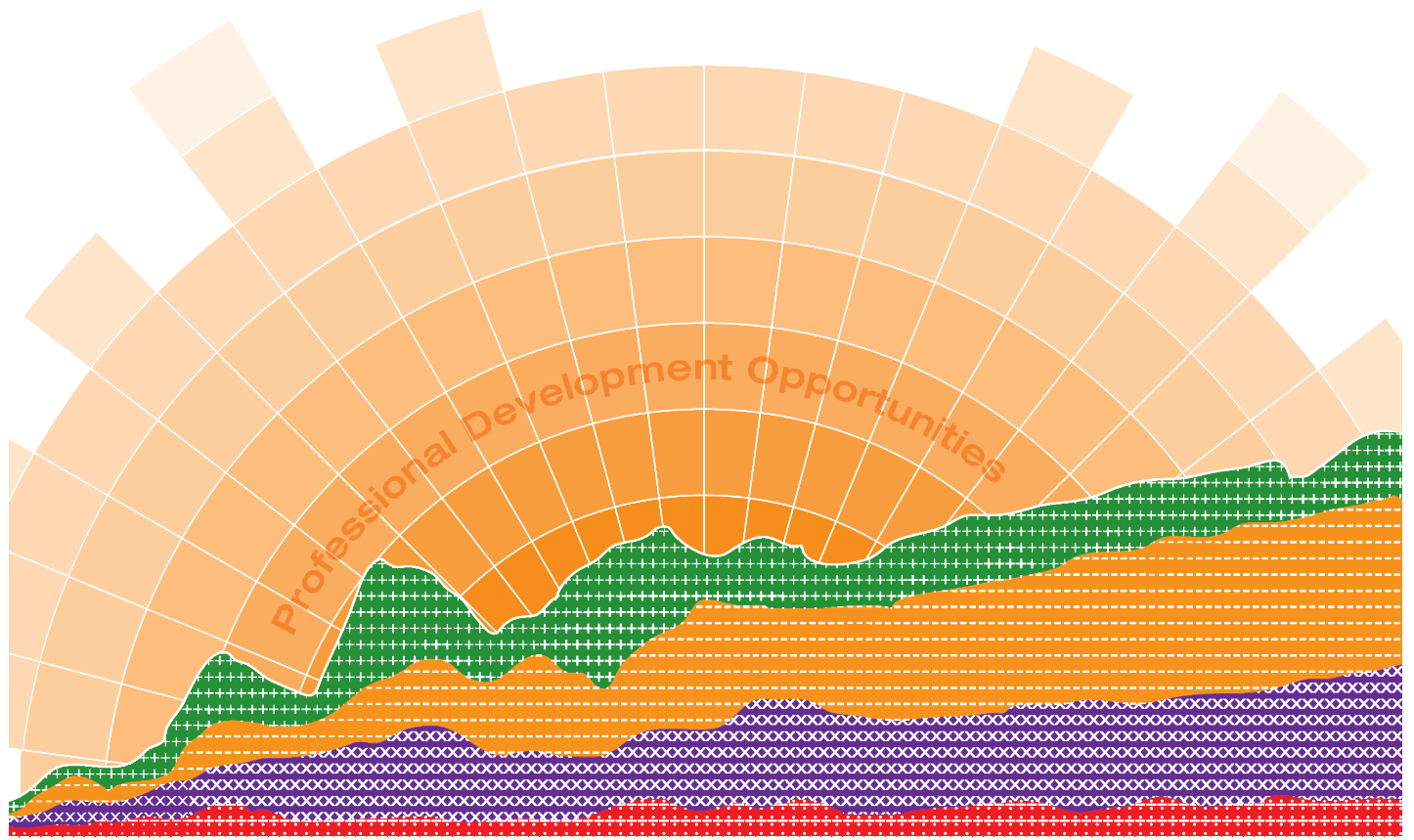
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Full information from [www.rss.org.uk/venuehire](http://www.rss.org.uk/venuehire)

Contact the RSS venue hire team: [venuehire@rss.org.uk](mailto:venuehire@rss.org.uk)



# Lancaster Postgraduate Statistics Centre Short Courses 2010-2011

## Continuing Professional Development Courses in Statistics

Lancaster Postgraduate Statistics Centre is the only HEFCE funded Centre of Excellence for Teaching and Learning that uniquely specialises in postgraduate statistics. Courses are taught by members of the Statistics Group within the Department of Mathematics and Statistics.

### What do we offer?

We offer a wide range of statistics courses and a variety of ways to learn. The following courses run regularly each year. Please check our website for the most up-to-date information.

For more information including fees or to book on a short course, please visit our website [www.maths.lancs.ac.uk/psc](http://www.maths.lancs.ac.uk/psc) or email us at [psc@lancaster.ac.uk](mailto:psc@lancaster.ac.uk).

## Statistics for Social Scientists and Health Professionals

### Introductory short courses

Introduction to Statistics (SPSS I)	3-4 November 2010
Secondary Data Analysis	2 December 2010
Atlas.ti	8 December 2010
Questionnaire Design	Week beginning 13 December 2010
Sampling Design	Week beginning 13 December 2010
Atlas.ti	18 March 2011

### Going further with statistics

Statistical Inference	25-28 October 2010
Using R Software	18-19 November 2010
Generalised Linear Models	24-26 November 2010
Duration (or Survival) Analysis	26-27 January 2011
Quantifying and Evaluating Forensic Evidence	3-4 February 2011
Data Mining Techniques	9-10 February 2011
Using STATA	23-24 February 2011
Bayesian Methods	3-4 March 2011
Intermediate SPSS for Windows (SPSS II)	9-10 March 2011
Structural Equation Modelling using AMOS	23-24 March 2011
Methods for Missing Data	29-30 March 2011
Multi-Level Models	4-5 May 2011
Quantitative Criminology	18-19 May 2011
Longitudinal Data Analysis	Date to be arranged

**MSc in Applied Social Statistics:** Study the above CPD courses as part of our MSc, full-time or part-time over 3-5 years. Learn about statistical methods used in quantitative criminology and forensic science, health research or teaching statistics up to pre-university level by following one of our new pathways.

### Specialist Topics in Medical and Pharmaceutical Research

Adaptive and Bayesian Methods in Clinical Research	14-17 February 2011
Survival and Event History Analysis	28 February - 3 March 2011
Pharmacological Modelling	14-17 March 2011
Genomics: Technologies and Data Analyses (registration deadline is 15 January 2011 for this workshop)	18 March 2011

**MSc in Statistics:** Choose optional pathways in medical, pharmaceutical or environmental statistics. Study advanced techniques. For those with a background in mathematics or statistics.

