

Regional Newsletter, December 2015



In this issue

MICHAEL SWEETING & ROLAND LANGROCK

Welcome to the December 2015 issue of the BIR Newsletter. Another year has passed by in a flash and as always attention now starts to turn towards the festive celebrations. In this issue we report on some of the activities of the region over the past few months and look forward to an exciting 2016 programme including a meeting on 30-years of DerSimonian and Laird's methodology in meta-analysis and the International Biometric Conference, which is being held in Victoria, Canada next July. We wish you a relaxing festive season and look forward to seeing you in 2016.

President's corner

JOHN MATTHEWS

Since I last wrote the Region has had a busy time with some emphasis on more varied fare than our usual diet of meetings. At the AGM held at Rothamsted in October I was delighted to present the Young Biometrician Award to David Robertson from the MRC Biostatistics Unit in Cambridge for his outstanding Statistics in Medicine paper on bias correction in the selection and validation of diagnostic tests. This is the third time the award, which is generously co-sponsored by the Fisher Memorial Trust, has been made and David's is squarely in the area of medical statistics. Doug Speed's award in 2013 was in the area of genetics and Rachel McCrea's in 2011 was for work in ecological applications, so not only does the Award allow us to celebrate the work of very fine biometricians, it also confirms our continuing diversity as an organisation, which is one of our most important attributes.

Rather less exciting, but I hope ultimately beneficial, was the postal ballot to amend the rules of the Region. While this exercise was essentially without excitement, it was not without burden and it is a pleasure to take this opportunity to thank Sue Welham, the Region's Honorary Secretary, Diana Cole, the retiring Membership Secretary and Byron Morgan, Honorary Life Member, who acted as scrutineer, for their great help in seeing the task through to completion. Our Rules have now been

cleansed of various obsolete items which had accumulated over the years and, rather more importantly, elections no longer have to be conducted by post. In particular the ability to hold elections electronically will make them easier and cheaper to conduct and probably more readily reach our members than was the case hitherto. The postal ballot rule did present a disincentive to hold elections, so its removal should allow the Region to be more actively democratic.



Presentation of the Young Biometrician Award. From (L to R): John Matthews (BIR President), Andrew Mead (BIR rep on FMT), David Robertson (YBA 2015 winner), Rosemary Bailey (BIR rep on FMT), John Hinde (IBS President).

In my last President's Corner I thanked those of you who agreed to be Local Champions. I must confess that the network has grown very slowly (*i.e.* not at all since I wrote!) — it has been a casualty of the other activities of the Region. I apologise because it is my fault that our Champions will be wondering what is happening but I hope that the network will be invigorated very soon. Some of you may be approached *de novo*, and we hope very soon to start making use of those of you who agreed to this role some months ago.

Many members will recall the excellent meeting which the Region held a few years ago to celebrate the forty-first anniversary of the landmark paper Regression models and life-tables by Sir David Cox which introduced



what is now universally referred to as the Cox model. Following the success of this meeting the Region is continuing the theme by celebrating the thirtieth anniversary of the key paper “Meta-analysis in clinical trials” by DerSimonian & Laird (Controlled Clinical Trials, 1986, cited over 16600 times) at a meeting organised by Dan Jackson, which is to be held at UCL on 13 April 2016. More details are given in the newsletter. Don't miss it!

Secretary's Corner

SUE WELHAM

As usual, our AGM was a time of change in the BIR Committee. We are very grateful to the retiring committee members, Mike Sweeting and Rhian Daniel, for their many contributions to the committee over the past 3 years. We especially thank Mike for his role in production of the newsletter and the BIR contributions to the Biometric Bulletin, and Rhian for staying on to become the new Membership Secretary.

This year we have several new members, in various different roles, so wanted to take this chance to introduce them.

Martin Ridout is the incoming vice-president. He will become Regional President for two years from our next AGM, and then serve a year as outgoing vice-president. Martin is a Professor of Applied Statistics at the University of Kent. Prior to joining Kent, he worked in agricultural and horticultural research institutes. He has been a member of the IBS since 1982 and over the years has attended IBCs in four continents. He was Treasurer of what was then the British Region 1992-1995. He was also an Associate Editor for Biometrics for 6 years in the 1990s and Book Review Editor for the period 2000-2003.

As mentioned above, Rhian Daniel is not new to the committee, but is our incoming Membership Secretary, a role which also includes co-ordination of our website. Rhian is a Lecturer in Biostatistics and Sir Henry Dale Fellow at the London School of Hygiene and Tropical Medicine. She's interested in statistical causality, and in particular the application of causal mediation analysis to high-dimensional “omics” data. As part of her previous committee incarnation, Rhian obtained a grant from the IBS to undertake a survey of our younger members to try to understand how the BIR and IBS could better meet their needs.

Our two new committee members are Tom Nye and Janette McQuillan. Tom is a senior lecturer at Newcastle University. Before that he had a postdoc position at the

MRC Biostatistics Unit working on statistical bioinformatics. Currently his main research interests are Bayesian inference of evolutionary trees, and analysis of data in non-Euclidean geometries such as the space of trees. Janette is the statistician on the multi-disciplinary Citizen Science team at Cancer Research UK. The team are dedicated to the development of innovative products that allow the general public to participate in cancer research. Janette has been working for the charity since September 2014. Prior to this, Janette completed a PhD in Statistics & Operational Research with an application in healthcare modelling at Queen's University of Belfast.

The region was pleased to be associated with the Donald Preece Memorial Meeting, held at Queen Mary University on 17th September, organised by Rosemary Bailey and Peter Cameron. This was a slightly unconventional meeting that celebrated aspects of Donald's work including statistics, combinatorial mathematics and music. The inclusion of an organ recital – on an instrument that Donald helped to restore via tireless lobbying and had played on many official occasions – is possibly a first for a BIR meeting. I was struck by the many tributes to Donald's enthusiasm and generosity in encouraging other people in their work, particularly younger biometricians. Donald served on the BIR committee from 1987-1989.

Food Security Meeting: The Role of Biological Modelling

MARK BREWER

The final Regional meeting of 2015 was held at the Rothamsted Research Conference following the AGM. There were three excellent talks based around the broad theme of food security.



Photo by John Estey/AusAID.



The first talk was given by Jim Smith (University of Warwick), on “Decision Support for Addressing Food Poverty in the UK: from production to consumption”. Jim explained how his team had been awarded an EPSRC contract to develop a fully formal Bayesian framework for integrating decision support tools in general and for food security in particular. There are numerous difficulties in setting up such a framework, such as: the need for decision support to be dynamic, in order to be able to respond to unfolding crises; and crucially, the need to integrate a wide range of different data sources, much of it derived from expert elicitation. Jim’s slides are available to members on the BIR website at

<http://bir.biometricsociety.org/events/food-security-20151008>

The second talk was presented by Nicole Augustin (University of Bath), on “Space-time modelling of blue ling for fisheries stock management”. Nicole discussed the importance of fish stock management, as fish protein represents a substantial proportion of global food intake. Fish stocks can be estimated from fishery catch data, but the information on abundance is conflated with survey effort and fish movement. Nicole used a Generalised Additive Mixed Model, with a spatio-temporal interaction term defined by a tensor product term combining a soap film smooth over space with a penalised regression spline over time.

Finally, Nik Cunniffe (University of Cambridge) presented work on the “Mathematical models for the spread and control of plant pathogens”. The problem of plant pathogens is also important to global food security, as they can dramatically reduce crop yields. Nik showed how spatial individual-based models can be fitted to data on the spread of two pathogens, citrus canker and citrus greening. Nik went on to show how the fitted models could be used to optimise cultural disease controls.

Stratified Medicine Meeting: The Role of Biological Modelling

DAN JACKSON & DANIEL FAREWELL

On Tuesday 8th September 2015, the British and Irish Region of the IBS organised an invited session at the annual conference of the Royal Statistical Society (RSS) in Exeter. The title of this session was “Perspectives on stratified medicine” and the speakers were Dan Jackson, Frank Dondelinger, John Whittaker and Deborah Ashby. The

session was organised to complement the President’s Invited Address later that day, in which Scott Zeger also dealt with opportunities and challenges of stratified medicine.

Introducing the BIR session, Dan Jackson provided a lively and accessible overview of stratified medicine, and emphasized that stratified medicine is much more than performing a few subgroup analyses.

Frank Dondelinger used a case study in cancer proteomics to illustrate advanced statistical methodologies for stratification of molecular data. He described the high-dimensional and high-throughput data spanning eleven cancer types that was obtained in collaboration with the MD Anderson Cancer Center, and posed the question of how to stratify samples in a highly heterogeneous disease such as cancer. He then presented a possible solution in the form of a mixture model, relying on regularisation via the graphical lasso to make the estimation tractable. He showed how the resulting graphical Gaussian models could be analysed, both in terms of identifying novel subtypes of cancers with different treatment outcomes, and in terms of looking for proteins that may be promising targets for stratified medicine.

John Whittaker gave an overview of pharmacogenetics, the use of genetic variables to stratify medicines. He summarised the current state of the field and noted that, though a number of interesting genetic associations with drug response had been discovered, few had compelling cases for clinical use. He also highlighted the challenges of discovering new associations in clinical development, and argued that new stratified medicines were more likely to come via the use of genetic/genomic data to suggest drug targets/indications early in the drug discovery process.

Deborah Ashby gave a brief history of statistics in drug regulation, and even produced an original copy of the RSS’s report from 1991 highlighting the lack of statistical input at that time, and making concrete suggestions that have had a profound influence of the regulation of medicines in the UK and the EU. She reviewed the cardinal principles of drug regulation, and the extent to which these hold or are seriously challenged by the emergence of stratified medicine, illustrating these with current examples, chiefly from the field of cancer. She concluded that whilst ICH-E9 is still serving us well, stratified medicine presents important new challenges to keep statisticians stimulated and busy in the regulatory authorities, the pharmaceutical industry and academia for many years to come.



The session was well attended and resulted in some lively discussion. Although the society does not envisage organising invited sessions every year at the RSS conference, the experience of collaborating with the RSS was very positive. The possibility of organising sessions at future RSS conferences may arise, so if members have suggestions for suitable topics that will interest both RSS and IBS members, we would be very pleased to hear them.

30 Years of DerSimonian and Laird's Methodology – A Celebration! Wednesday 13th April 2016

DAN JACKSON

On Wednesday 13th April 2016, the society is organising a very special event at University College London. The year 2016 will mark the 30 year anniversary of the landmark meta-analysis paper "Meta-analysis in clinical trials" by Rebecca DerSimonian and Nan Laird (1986, *Controlled Clinical Trials* 7, 177-188). To celebrate this very influential paper, the IBS-BIR is organising the event "30 Years of DerSimonian and Laird's Methodology – A Celebration!" Some details are available at the society website at <http://bir.biometricsociety.org/events/30year> and further details and information concerning registration will appear here in due course.

We have an extremely distinguished set of four speakers for the day. Julian Higgins (University of Bristol) will present a celebration of the 1986 paper, Kerry Dwan (University of Liverpool) will discuss the applied implications of the paper, Richard Riley (University of Keele) will discuss subsequent methodological development and Theo Stijnen (LUMC, Netherlands) will discuss more modern statistical methods. The day will be concluded with a talk from a specially invited guest discussant – more details to follow soon.

We anticipate that this will be a very special day for those involved in meta-analysis and, although we plan to cater for more than 150 people, places will be limited so we encourage early registration in order to avoid disappointment.

International Biometric Conference 2016

JOHN HINDE

The XXVIIIth International Biometric Conference (IBC2016) will be held July 10–15, 2016 at the Victoria Conference Centre, Victoria, British Columbia, Canada. The meeting is being hosted by the Western North American Region (WNAR). The Local Organizing Committee (LOC), led by Laura Cowen and Youyi Fong, is currently finalizing plans for the social programme, including a welcome reception, excursions, and a Thursday evening gala to be held at the Royal British Columbia (BC) Museum.



Victoria Inner Harbour, British Columbia, Canada.

Fred van Eeuwijk (Rned) chairs the International Programme Committee (IPC) and has constructed a programme of invited sessions to cover the diverse interests within our Society. These will be augmented by several special sessions, including Biometrics and JABES showcases, a Young Statisticians' Showcase, an invited session from the ISI, and a Statistics in Practice Session inspired by the German Region's development of this as an integral part of their regional meetings.

The Education Committee, under Pascale Tubert-Bitter (FR), has selected four short courses that will be delivered on the Sunday before the main meeting: these are 1) Analysis of life history data with multistate models (Presenters: Richard Cook and Jerry Lawless); 2) An introduction to the joint modelling of longitudinal and survival data (Presenter: Dimitris Rizopoulos); 3) A statistical approach to machine learning (Presenters: Andreas Ziegler and Marvin Wright); 4) Design of complex experiments (Presenters: Andrew Mead and Steven Gilmour).

There is now a call for contributed talks and posters, which can be submitted online at <http://biometricconference.org/> until 6th January 2016.



These are the most important aspects of our meetings and offer an opportunity for everyone to present their work and demonstrate the exciting developments and applications of biometry throughout the world.

This promises to be yet another great IBC in an outstanding location. I really hope that many of you will be able to make the trip, and join us. So get planning that abstract. See you in Victoria!

Bursaries to attend IBC 2016

The IBS British and Irish Region will be awarding up to 6 bursaries, each of up to £500, to help career-young biometricians attend the IBC in Victoria BC (Canada) to present their work (July 10-15 2016, see <http://biometricconference.org/>). The scheme is co-funded by the BIR and the Fisher Memorial Trust. Applications should consist of a one-page cover letter, a two-page CV, and the abstract submitted to the conference website. In the cover letter, please make your case for support, stating clearly any other financial support you have for attending the conference, and outlining the importance of the conference to you. Please ensure that your CV makes clear that you are 'career-young' *i.e.* that you have not been employed as a biometrician for more than five years. Preference will be given to those who have been employed as biometricians for less than three years. Applicants must be members of the British and Irish Region of the IBS and currently employed or studying in the UK or Ireland at the closing date for applications but members who join after 1st January 2016 may only qualify for a reduced bursary. Applications should be submitted by email to Sue Welham (sue.welham@vsni.co.uk) by 31st January and applicants will receive a decision by 15th March 2016. The award is contingent on your abstract being accepted for oral or poster presentation and you will be expected to submit a report on your attendance at the conference and its benefits for young biometricians. It is expected that the IBS will also shortly advertise its own bursaries for IBC 2016 for students. These bursaries will cover the full costs of attending the IBC, but only one award will be made from Europe. Application to both schemes is allowed, but the BIR bursary will be withdrawn from anyone receiving an award from any other IBS scheme.

Subscriptions Due!

MARK BREWER



Your membership of the International Biometric Society, British and Irish Region is now due for renewal. The fees for 2016 remain unchanged:

- Full Member: £40
- Retired Member: £20
- Biometrics and the Biometric Bulletin: £7 extra
- JABES and the Biometric Bulletin: £7 extra
- JABES, Biometrics and the Biometric Bulletin: £14 extra
- Student Member: Free (Note: please renew your membership for 2016 on the website)

If you are a full or retired Member, there are several ways that you can pay for your membership for next year.

- Standing order: If you have set up a standing order your membership renewal is automatic each year. If you would like to set up a standing order please contact Mark Brewer;
- Paypal: Go to <https://biometricsociety.org.uk/amember/signup> to pay your membership fees;
- Cheque: If you pay by cheque, please send the form at the end of this newsletter with your cheque to Mark Brewer (address is on the form).

Please advertise the society widely amongst your colleagues! Any new members can join the society by visiting <http://bir.biometricsociety.org/membership>.

Paying Your Membership Fees by Standing Order

The easiest way to pay for your IBS membership is by standing order; set it once, and your membership will renew automatically each year.

How do standing orders work?

Standing orders are instructions you send to your own bank to make regular payments to a specified account; they are entirely under your control.



How can standing orders be set up?

If you have online banking, there should be a facility to set up a standing order – it only takes a few minutes. Typically you'll need to enter the name, account number and sort code of the account you want to send money to – you can get this info from the region treasurer Mark Brewer (Mark.Brewer@bioss.ac.uk), although we will be emailing details to all members (for whom we have email details) soon. You'll also be given a chance to add a "reference" to the transaction – please enter your name here, as then we know whose membership the money is for! Finally, you'll be asked to add the amount and the payment schedule – please arrange the payments as yearly, on 1st January; the money will be transferred on the first banking day after that date each year.

How can I stop or change a standing order?

The same online banking facility should enable a standing order to be cancelled at the click of a button, and may even allow an existing order to be amended. The standing order will need to be changed if the fees change (which they haven't now for several years); it will also need to change if you alter your membership category (full/retired etc) or amend your printed journal subscriptions – in which case please also contact the membership secretary (Rhian Daniel, rhian.daniel@lshtm.ac.uk) with this information. Remember, the IBS cannot change or stop a standing order; that ability lies entirely with you.





International Biometric Society, British and Irish Region

RENEWAL OF MEMBERSHIP for (name)

MEMBERSHIP CATEGORY: Please check

FULL member (Annual Subscription 40 pounds sterling) Full benefits of the Society including electronic subscription to Biometrics, Journal of Agricultural, Biological, and Environmental Statistics (JABES) and the Biometric Bulletin, voting privileges and the right to hold elective office.

RETIRED member (Annual Subscription 20 pounds sterling) All the rights of Full Membership. The retired category is open to anyone who has been a member for at least 10 years, and who is no longer in paid employment (working less than 0.2FTE).

Members have the options of receiving paper copies of the journals. Please check if applicable:

Biometrics and
Biometric Bulletin
£7 extra

JABES and Biometric
Bulletin £7 extra

Biometrics, JABES and
Biometric Bulletin
£14 extra

Please detail any changes to contact details here:

Title _____

Organisation _____

Address _____

Telephone _____ Fax _____

Email _____

You can renew your subscription online at <http://bir.biometricsociety.org/membership> (see foot of page). If this is not possible, then please send this form with a cheque made payable to 'BIOMETRIC SOCIETY' to Mark Brewer (Treasurer), BioSS Office, The James Hutton Institute, Craigiebuckler, ABERDEEN, AB15 8QH.

If you would prefer to pay by standing order or bank transfer, please contact Mark at M.Brewer@bioess.ac.uk for details. Note that with online membership renewal, payment can be made via PayPal (but please note you do not in fact need a PayPal account – just a debit or credit card).