

# Regional Newsletter, June 2013



## In this issue

DANIEL FAREWELL & MICHAEL SWEETING

Welcome to the June 2013 edition of the BIR newsletter! As incoming editors we would like to thank Sara Geneletti for all her efforts in producing the newsletter for the last few years, and for helping us hit the ground running. We would welcome any comments on the structure and content of the current newsletter, and contributions for the next issue! Names in blue (such as ours at the top of this section) provide email links.

In this issue we hear for the first time from our new regional president, Simon Thompson, and learn about upcoming regional society events including meetings around Species Distribution Modelling and Statistical Software Interoperability. There is also an extensive report on the scientific meeting celebrating 40+ years of the Cox model, together with details of how to access slides and webcasts from the talks.

## The 4th Channel Network Conference

RUTH KING



*St Andrews, host of the 4th Channel Network Conference. Image Copyright Peter Gordon. This work is licensed under the Creative Commons Attribution-Share Alike 2.0 Generic Licence.*

As you receive this newsletter, many of you will be preparing to leave for the 4th Channel Network Conference, alongside colleagues from Belgium, France, and Netherlands. We are delighted that this conference is being hosted by the British and Irish (BIR) region of the International Biometrics Society. The biennial meeting is a joint venture between the IBS regions of Belgium,

France, Netherlands and the BIR. This year the meeting will take place from 3rd-5th July at the University of St Andrews. The keynote speaker for the meeting is Geert Verbeke with further invited sessions on Statistical Ecology (David Borchers, Eleni Matechou and Jerome Dupuis), Advances in Genomics (Mark van de Wiel, Hae Won Uh and Hongzhe Li) and Mixed Modelling (Simon Wood, Janine Illian and Adeline Samson). The meeting will also host the Fisher Memorial Lecture given by Prof. David Spiegelhalter in the evening of the 3rd July, which will be followed by a poster and buffet session. Prior to the lecture a presentation will be made to the winner of the Young Biometrician Prize 2013, which is awarded jointly by the BIR and the Fisher Memorial Trust. There will be a further 60 contributed talks within 12 contributed sessions. Prior to the meeting there are two scheduled workshops on the morning of the 3rd July on "Parameter redundancy" (Diana Cole) and "Current methods in mixed modelling" (Lea Fortunato).

For further details, including the conference programme, see <http://tinyurl.com/ibscnc2013>. We look forward to seeing you there!

## President's Corner

SIMON THOMPSON

I took over from John Hinde as BIR President in January this year. Having served a year as Incoming Vice-President before that, I was already acquainted with the activities of the BIR. My main concern, in taking over this role, is to try and raise the profile of the BIR amongst all biometricians and biostatisticians in the UK and Ireland, and to clarify where we should focus our efforts.



*Simon Thompson, current BIR President.*

The international activities of the IBS, notably the International Conference and the Channel Network Conference, both biennial events, are usually well attended and much appreciated. However, the same is not true of some of the scientific meetings organised in recent years by

the BIR. As an example, the scientifically excellent meeting in November 2012 on GLMs and their extensions, a topic surely of interest to almost every practising statistician, had four internationally established speakers giving talks in one afternoon. However the attendance comprised only about 50 people, and included very few younger researchers and PhD students. What can be done to increase attendance at such meetings, and make the events more attractive?

I raised this issue at our recent Committee meeting in March. Many ideas were discussed, for example that we could:

- Focus on just one or two high-profile meetings each year, maybe on particularly contentious topics.
- Promote meetings jointly with other groups (such as the RSS, PSI, British Ecological Society) as we do already to some extent.
- Use a more consistent venue (we are investigating the London University Senate House for this), and arrange social gatherings after the meetings.
- Use modern technology, including Twitter and Facebook, to promote BIR and its events, and afterwards release webcasts to make meetings available to members who could not attend.
- Raise awareness by developing the BIR website, and instigate a regional / departmental network of individuals to champion BIR.

We of course noted that maintaining attendance at scientific meetings is an issue for other organisations as well. This no doubt reflects the time pressures and other priorities that are now placed on academics and researchers, as well as the many different methods of electronic communication now available. We were therefore pleased that the meeting on 40+ years of the Cox model in March drew an audience of around 120, and a webcast of the meeting is currently being released to members. If you have ideas about how the BIR could better serve you, its members, do let us know (you can email us via the BIR website). Or you could even consider joining the Committee to help us develop the BIR.

We have some excellent meetings planned for the second half of 2013, as detailed elsewhere in this newsletter, including the Channel Network Conference at St Andrews in July. This is the first time this conference has been in the UK (previous occasions were in France, Belgium, and the Netherlands), so I hope that I will see many of you there.

## 40+ years of the Cox model

DANIEL FAREWELL

On 8 March 2013, over 100 people gathered in London to celebrate the 41st anniversary of the Cox model. The scientific meeting was jointly organised by the British and Irish Region of the IBS and the Centre for Statistical Methodology at the London School of Hygiene and Trop-

ical Medicine. Invited speakers Bianca De Stavola, Torben Martinussen, Paul Lambert and Robin Henderson took those in attendance on a journey that ranged from the theoretical to the practical and from the historical to the cutting edge. Sir David Cox offered his own recollections on the genesis of the ‘proportional hazards’ model, before gamely engaging in open discussion with the audience. Just as it had 41 years previously, the questions and comments from the floor revealed the enormous appreciation and respect of the scientific community for David Cox and for his work.



L-R: Robin Henderson, Torben Martinussen, David Cox, Bianca De Stavola, Paul Lambert

The first session’s chair anticipated the obvious question, ‘why 41?’, and indicated that it was neither to set up a clever joke about censoring nor because prime anniversaries are more fundamental, but simply because “last year we forgot”. The first invited speaker, Bianca De Stavola, then wound back the clock through those 41 years, and explored what life as a statistician was like in 1972: what could we do with censored time-to-event data, and what was not possible? Setting the context with reference to a wide range of existing scholarly articles on nonparametric maximum likelihood estimation and comparisons of survivor functions, she highlighted some of the many contributions of Cox’s 1972 read paper, ‘Regression models and life tables’: regression models of arbitrary complexity that included the ability to model continuous covariate effects, the germ of partial likelihood and a feasible and intuitive method of calculation.

Torben Martinussen was second on the floor, and described the estimation of direct effects in event-history models. He focussed on Aalen’s additive hazard approach, and began by giving a three-point description of G-computation that several attendees described as the clearest they’d heard: form the product of DAG-respecting conditional distributions; delete anything depending on the ‘do’ variable(s); and marginalize over uninteresting variables. He then described the extension to time-dependent models, before (appropriately!) spending some time explaining how censoring may be accommodated. The Aalen linear hazard model having formed a

nice counterpoint to the day's theme, Prof. Martinussen then recounted recent work on estimating direct effects in the technically more demanding setting of the Cox model.



*David Cox regales the audience with his own recollections of his famous 1972 paper*

Paul Lambert took parametric survival models as his theme, and described how the fact that the Cox model does not directly estimate the baseline hazard can be seen as both an advantage and a disadvantage. He illustrated several scenarios in which modelling the baseline hazard can be advantageous, including prediction, when excess hazards are of interest, and when multiple timescales may be relevant (for instance, age and time-since-diagnosis). Importantly, he also argued that in situations when both are appropriate, nonparametric and flexible parametric survival models tend to yield very similar results. Prof. Lambert also brought to the audience's attention the little known fact that David Cox's 1972 read paper has an h-index of 13! See <http://tinyurl.com/coxmispprints> for details.

Robin Henderson began the final session of the day with a personal tribute to David Cox:

*"He's the greatest man I've ever met, not just for his academic contributions, but for his humility and his kindness to other people, and for his little known sense of devilment."*

The latter referred to a pillion ride on Robin Henderson's motorbike around the streets of Newcastle, which David Cox later recalled culminating in "two 360 degree turns at very high speed". Prof. Henderson talked about his work on explained variation in event-history analysis. He outlined how ranking the hazards of individual subjects leads to a very general measure of predictive performance. An important finding arising from his use of this measure is that predicting individual survival outcomes is very difficult indeed, explained variation being typically quite low (often less than 25%). This is so even if population survival characteristics are well understood.



*'Survivors' of the 1972 ordinary meeting of the RSS at which David Cox's paper was read, L-R: Martin Bland, Patrick Royston, Agnes Herzberg, David Cox, David Clayton*

David Cox prefaced his remarks with a warning about the dangers of retrospection, but nevertheless recounted to the audience some of the driving forces behind the 1972 paper. These included questions from Peter Armitage, Marvin Zelen and Ed Gehan, all of whom were faced with censored survival data, the possibility of multiple dependencies on explanatory variables, and a desire for intellectual security without strong assumptions. With characteristic humour and humility, David Cox outlined how this led to a formulation in terms of the hazard function, and a means of analysis that was so "totally obvious" it took him three years to see that it was totally obvious. He then spoke of a different kind of hazard: on looking back at the development of a subject area, the severe temptation to assume "we knew all that". He concluded by offering an intriguing precept for deciding between semiparametric and parametric approaches to a particular problem:

*"If the problem can be tackled semiparametrically, it will usually be wise to tackle it parametrically. If the problem cannot be tackled semiparametrically, it will be dangerous to tackle it parametrically."*

Following a wide-ranging question and answer time, those in attendance at the 1972 reading of the paper were invited to the front of the auditorium for a 'survivors' photograph.

## Cox meeting webcasts available to members

Webcasts (slides + audio) of all four presentations and David Cox's discussion at the meeting on 8 March 2013 are available to IBS members via the BIR website. The committee would welcome feedback on ease of access and on the value to members of this type of material. Please visit <http://tinyurl.com/coxmeeting> and log in using your normal BIR username and password



to access the YouTube links, then let [Peter Colman](#) know what you think!

## IBC 2014, July 6-11, Florence: Call for Contributed Papers

JOHN HINDE



Abstracts for contributed oral and poster presentations to be presented at IBC 2014 can be submitted online from 16 September 2013 until 16 December 2013 inclusive. Submissions are welcome in all areas of biometry and an indicative list of areas is given in the full Call for Papers, see the IBC2014 website.

All submitted abstracts will be reviewed by the scientific committee for the conference, and presenting authors will be informed of the status of their abstract (oral session, poster session, rejection) by 3 March 2014.

All contributed oral presentations will be allocated to a 15-minute slot within a particular scientific session, with each session lasting 105 minutes and therefore containing 6 oral presentations and time for discussion. All poster presentations will also be allocated to a particular scientific session, throughout which it is expected that the presenting author will be present at their poster.

Following on from the success of the awards made at the last three IBCs, the IBS will again be awarding prizes for the Best Student Oral Presentation(s) and the Best Poster Presentation(s).

Full details will be available shortly on the IBC 2014 website: <http://www.ibs-italy.info>

## Species Distribution Modelling Meeting

DIANA COLE

We're pleased to announce that a Species Distribution Modelling meeting will be held on Wednesday 9th October 2013 at Charles Darwin House in London.

This is a joint meeting between the Environmental Statistics Section (ESS) of the Royal Statistical Society (RSS), the British and Irish Region of the Biometric Society, and the Computational Ecology Special Interest Group of the British Ecological Society (BES).

The meeting will start with a workshop on "Best practice in SDMs" by Wilfried Thuiller. After lunch there will be three speakers: Daniel Simpson talking on "Easy, fast, Bayesian species distribution mapping with INLA", Greg McInerny speaking on "New quantitative methods for SDM and making them relevant to users", and Colin Beale will be speaking on a topic yet to be confirmed.

At lunch time we will be holding a poster session. We invite the submission of posters on Species Distribution Modelling at the meeting. If you wish to present a poster please email your poster title to [Diana Cole](#).

More details and registration is on the webpage <http://tinyurl.com/sdmmeeting>. The cost is

- Member of Biometric/Royal Statistical Society/British Ecological Society: £30
- Student Member: £15
- Non-Member: £60

## Statistical Software Interoperability Meeting

BILL BROWNE



A meeting investigating the interesting challenge of Statistical Software Interoperability is to be held at the RSS headquarters in Errol Street in London on the afternoon of the 14th November 2013.

Speakers from academia and industry will describe several situations where their work has required features from different software packages and has led to the construction of software functionality to link the packages together. The speakers will describe work involving the software packages SAS, Genstat, JMP, WinBUGS, MLwiN, R and Stat-JR.

More details and registration will be available soon from the British and Irish region website at <http://tinyurl.com/ssimeeting>.

## Doug Speed awarded the 2013 FMT & IBS-BIR Young Biometrician's Prize

JAMES CARPENTER (BIR SECRETARY)

We would like to thank all those who proposed individuals and papers for consideration in this year's BIR-FMT competition, and the nominees whose papers were considered. The judges were impressed by the high standard of all 8 papers, any of which would have been a worthy winner of the Joint FMT & IBS-BIR Young Biometrician's Prize. They enjoyed reading, and learned from, all of them. They presage well for the future of UK biometrics.

Their unanimous decision was that the prize should be awarded to Doug Speed (UCL) for "Improved heritability estimation from genome-wide SNPs" in *Am J Hum Genet* (2012). This elegant paper used critical thinking and seemingly simple mathematics to propose a simple adjustment for linkage disequilibrium when testing for association between SNPs and diseases. Together with related software, it has the potential to make a large impact in post-genomic genetics.

The judges also wished honourable mention to be given to Roland Langrock (St Andrews) for "Markov-modulated nonhomogeneous Poisson processes for modeling detections in surveys of marine mammal abundance" in *JASA* (2013, in press). This paper solved a challenging problem, by developing statistical methodology that takes into account unobservable diving of marine mammals when estimating abundance from line transects: an important ecological model is put in the more general framework of Markov models.

Once again, thank you to all those who participated, and congratulations to Doug Speed and Roland Langrock.

## News from the IBS

JOHN HINDE (VICE PRESIDENT IBS)

In the last issue of the Newsletter I was writing as outgoing President of the BIR and now I find myself as the vice-President of the IBS, so here is a quick update on Society matters.

The great news is that at last the new governance structures of the IBS are up and running. The first meeting of the new Executive Board was held in March in Freiburg, Germany in conjunction with the German Region's DAGStat conference. Twelve of the 15 members met over two days to discuss and plan for the future of

the Society. Among many possible actions that were discussed, five general priority areas were identified:

- Increase tangible member benefits
- Enhance Biometric Bulletin
- Develop student initiatives
- Develop short courses and increase member awareness
- Develop webinars and podcasts

For each area a task group of Executive Directors was established that will be responsible for moving things forward and involving the Society's Standing Committees, Regions, and, most importantly, interested members. To smooth this process and improve communication within the IBS structures, Executive Directors were assigned liaison roles with each committee and the Chair of Representative Council, who was present by invitation, is to provide the important two-way communication between the Executive and Council. We hope to see many of these priorities moved forward over the coming year and to be able to report on some concrete developments at the IBC in Florence next year. I am always happy to receive your thoughts and opinions on the IBS and look forward to meeting many of you at the forthcoming Channel Network Conference in July.

## UK Causal Inference Meeting

RICHARD EMSLEY



The first UK Causal Inference Meeting (UK-CIM), held in May in Manchester, was a great success with 100 people attending and a varied and engaging programme of talks on the theme of "Causal Inference in Health and Social Sciences". In total, it featured 25 excellent presentations including a keynote lecture from Professor Stijn Vansteelandt of Ghent University.

The programme contained sessions on causal mediation analysis and extensions, fundamentals of causal inference, longitudinal data, instrumental variables and latent structures, and propensity score and matching methods; a broad range of topics reflecting the growing importance of causal inference methodology.

Members of the Region are on the UK-CIM Steering group and these and other members contributed talks and chairing of sessions at the meeting. The participants were not limited to the UK, with a dozen people from across Europe also travelling to Manchester to participate in the meeting, showing the appeal to a wide group.

Following the success of the meeting, a Causal Inference Network has been established for members to keep updated with seminars and events of interest. This

will function through a new mailing list on JISCMail (UKCAUSALINFERENCE@JISCMail.AC.UK). We are also making plans for UK-CIM to become more regular, so there is likely to be another event in spring 2014; details will be announced later this year.

Further information on the Network or UK-CIM in general is available at the meeting website <http://tinyurl.com/ukcim> or by email.

## Update on the International Year of Statistics 2013

RICHARD EMSLEY



As readers will hopefully now be aware, the BIR is actively participating in the International Year of Statistics 2013, and there are several ways that members are encouraged to contribute to this event. Please join in where you can!

### Has your organisation signed up?

Participation continues to grow and exceed the targets set by the Steering Group, which was originally aiming at 2,013 individual participating organisations. Currently there are 2,035 participants, including the recent addition of the United Nations Statistics Division. Since we are only half-way through 2013, we need to set a new target and are aiming to have 2,500 by the end of the year. It is easy to join as a participating organisation, and signing up does not imply any obligation at all, only that you support the goals of Statistics2013 (which we hope members would do)! To sign-up, go to <http://www.statistics2013.org> and click on the "Join Statistics2013" icon on the right side of the homepage.

Demonstrating that this is truly an international effort, representatives from Dominica and Bosnia and Herzegovina joined recently and these additions bring the total number of countries represented in Statistics2013 to 124. For context, nearly two-thirds of the world's countries are participating in the International Year of

Statistics! If you have links to any organisations in countries not yet represented, you could help increase this number further. You can check out the current participant and country lists at the Statistics2013 website.

### Future of the Statistical Sciences Workshop

The capstone event of Statistics2013 will be the Future of the Statistical Sciences Workshop. The BIR are obviously delighted that this event will be held in London, at the Royal Statistical Society on 11th and 12th November. The workshop is also being sponsored by the IBS.

The workshop will bring together statisticians from around the world, scientists who collaborate with statisticians, science writers and representatives from funding agencies. It aims to showcase the breadth and importance of statistics and highlight the extraordinary opportunities for statistical research in the coming decade.

Participation in the workshop is by invitation only and will involve approximately 100 people. However, everyone will be able to view the workshop live as well as recordings of the proceedings via the web. After the workshop, with input from participants and others, the organizing committee will publish a summary document that will be widely distributed to the larger scientific community.

So if this sounds an interesting event that you wish to follow, mark the date in the diary and visit the workshop website <http://tinyurl.com/futurestats> for more details.

### Check out the Statistics2013 website for activities

One of the big successes of the Statistics2013 website has been the Activities Calendar, which is an excellent place for finding activities in which you and your organization can participate. It also is a great place to see what other organizations around the world are doing to mark the celebration. If you are organising any event which represents an activity for Statistics2013 (meetings, conferences, seminars, open days), and want to publicise this with a link from the Statistics2013 website, then it is easy to add your event from the website. We hope to preserve the Activities Calendar beyond 2013 as a centrally compiled list of all international statistical meetings. This would be one of the many excellent legacies from the International Year of Statistics!

That's it for now. We will keep you updated of all the activities from the BIR as part of Statistics2013!

## Secretary's Corner

JAMES CARPENTER

Opportunities abound to get more involved in the British and Irish Region!

As usual, at the AGM on 14 November 2013, we will be electing two members to join the committee, which consists of 6 members, each serving for three years. The committee is primarily responsible for organizing our scientific meetings, alongside the regional President and officers. I'd particularly like to encourage career-young members to consider standing for the committee.

At the AGM we also have to nominate an incoming Vice-President, to succeed Simon Thompson. Please do email me with suggestions for this strategic role.

At the international level, the society is run by an Executive Board, and a Representative Council. The latter provides advice to the Executive, and also is a pool from which the chairs of the various international committees, as well as about half their members, are drawn. Our current members, who come to the end of their three year term in November, are Chris Glasbey (BioSS), Ruth King (St Andrews) and Sue Welham. Ruth and Sue are eligible for re-election, but Chris is standing down.

I was delighted to be nominated, and subsequently elected, to the Executive Board of the IBS, and to attend the first meeting in Freiburg. As you can read elsewhere, this went very well, and the IBS will be launching a number of new initiatives aimed at responding to members' needs.

Given this, and since I have been secretary of the BIR for six years, I will be standing down as BIR secretary at the AGM in November 2013. I've really enjoyed working with the officers and committee over this period. From my perspective as secretary, particular thanks go to Sara Geneletti, and now Michael Sweeting and Daniel Farewell for editing the newsletter, and for Diana Cole for her work as membership secretary.

And that leads me to another opportunity: we are still seeking a new secretary, and if you would like to find out more about this role please do email me, or Simon Thompson.