Volume 39 • Issue 7

IMS Bulletin

August/September 2010

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IMS Election Results

2010

IMS members have voted in the 2010 Council elections, and the results are in!

Ruth Williams is IMS President-Elect (below left), and the five new IMS Council members (pictured below, second left–right) are Krzysztof Burdzy, Arnoldo Frigessi, Steve Lalley, Ingrid Van Keilegom, and Wing H. Wong.

Their three-year terms on the IMS Council begin at the second IMS Council meeting, which is at the Annual Meeting held this year in Gothenburg, Sweden. Ruth will be replacing outgoing Past President Nanny Wermuth on the Executive Committee, and the five new elected Council members will replace Montse Fuentes, Geoffrey Grimmett, Maria Eulalia Vares, Jon Wellner and Alan Welsh. In addition, Rong Chen, the IMS Treasurer, will complete his three-year term in August, and Jean Opsomer will become the new Treasurer. We extend our thanks to everyone who serves the institute for all their hard work behind the scenes!

The rest of council is made up of the other ten elected members (Davar Khoshnevisan, Bruce Lindsay, Michael Newton, Jane-Ling Wang and Bin Yu, whose terms expire in 2011; and Marie Davidian, Edward George, Robert Tibshirani, Michael Titterington and Zhiliang Ying, who will serve until 2012), the rest of the Executive Committee, and the IMS journal editors.

IMS China members also voted this year (candidates' details are at http://www.imstat.org/imschina/elections/candidates.html). The results are:

IMS China Chair: Zhi Geng

IMS China Chair-elect: Shige Peng

IMS China Program Secretary: Zenghu Li

IMS China Treasurer: Min Chen

IMS China Committee members: Zengjing Chen, Fuqing Gao, Jianhua Guo, Junyi Guo, Xianping Guo, Taizhong Hu, Huazhen Lin, Shunlong Luo, Baiqi Miao, Nian-Sheng Tang, Shanjian Tang, Rongming Wang, Li-Xin Zhang, Zhong-Zhan Zhang, and Zhongyi Zhu.

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Executive Committee

IMS members' news

Gary King elected to National Academy of Sciences

In the May issue we reported that four IMS members/Fellows had been elected to the US National Academy of Sciences. In fact, that should have been five: long-standing IMS member Gary King was omitted from our list. Gary King is the Albert J. Weatherhead III University Professor at Harvard University, based in the Department of Government. He also serves as Director of the Institute for Quantitative Social Science. His webpage is at http://gking.harvard.edu/

Kris Snibbe/Harvard News Office

Gary King

David Blackwell: 1919–2010

David Blackwell passed away on July 8th, 2010. Born in 1919, David was an outstanding mathematician, probabilist and statistician, an inspiring teacher in all these areas, and a wonderful, much-loved human being. Widely recognized for his achievements, he was the first African American inducted into the US National Academy of Sciences, the first black tenured faculty member at UC Berkeley, an Honorary Fellow of the Royal Statistical Society, President of the Bernoulli Society, Vice-President of the International Statistical Institute, the American Mathematical Society. and the ASA, and President of our own IMS. A full obituary will appear in due course.

Javier Rojo receives Don Owen Award

The Don Owen Award for 2010 was presented to Javier Rojo in April at the Conference of Texas Statisticians. The award was presented on behalf of the San Antonio Chapter of the American Statistical Association. Following the presentation, Dr Rojo presented a talk describing the summer education programs and symposia that he has organized, including several photographs of the participants and international venues. He also shared his personal experiences as a collegiate baseball player and how he switched to a career in statistics after suffering an injury that ended his baseball career.

Javier Rojo is a faculty member in the Department of Statistics at Rice University, having previously worked for 17 years at the University of Texas at El Paso. He received his PhD from the University of California at Berkeley in 1984. Since 2005, he has also been serving as an Adjunct Professor at the University of Texas M.D. Anderson Cancer Center. In addition to his teaching activities, he serves as Chair of the Pan-American Advanced Studies Institute. Professor Rojo is an outstanding example of the precedent set by Don Owen in service to the profession, teaching, and research. More details about the award and Javier Rojo are at http://www.amstat.org/news/2010owenawardwinner.cfm

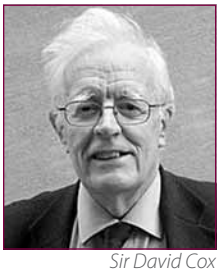
David B. Dunson

Myrto Lefkopoulou Distinguished Lecturer

The Department of Biostatistics at Harvard School of Public Health has named David B. Dunson, Professor of Statistical Science at Duke University, as the 2010 Myrto Lefkopoulou Distinguished Lecturer. See the announcement on page 4 for details, and a call for nominations.

Ping-Shou Zhong, IMS Laha Award recipient, is a PhD student at the University of Iowa, not Indiana (see announcement in the June 2010 issue).

David Cox awarded Royal Society's Copley Medal


Sir David Cox

The Royal Society, the UK's independent academy for science, has awarded one of this year's two Copley Medals to IMS Fellow Sir David Cox FRS, for "his seminal contributions to the theory and applications of statistics." The Royal Society's Copley Medal is the world's oldest prize for scientific achievement; two have been awarded this year in celebration of the Royal Society's 350th Anniversary (the other medal was awarded to Dr Tomas Lindahl FRS for his seminal contributions to the understanding of the biochemistry of DNA repair.)

Professor Cox said, "I am deeply honoured and indeed overwhelmed by the award of the Copley Medal with its illustrious history." He added, "Neither my theoretical nor my applied statistical research would have been possible without the collaboration of colleagues in many different fields."

The Copley medal was first awarded by the Royal Society in 1731, 170 years before the first Nobel Prize. It is awarded for outstanding achievements in scientific research and has been awarded to such eminent scientists as Charles Darwin, Michael Faraday, Albert Einstein and Stephen Hawking.

David Donoho awarded 2010 Wiener Prize

David L. Donoho received the 2010 AMS-SIAM Norbert Wiener Prize in Applied Mathematics at the Joint Mathematics Meetings in San Francisco in January 2010, "*for introducing novel fundamental and powerful mathematical tools in signal processing and image analysis. His many outstanding contributions include those to compressed sensing and the construction of multiscale analysis techniques that take advantage of the specific mathematical and physical properties of the problems under consideration. His methods are very deep mathematically and very efficient computationally. This explains their success with both theoreticians and practitioners, which causes him to be one of the most cited applied and computational mathematicians of our time.*"

David Donoho received his A.B. in statistics (summa cum laude) from Princeton University, where his undergraduate thesis adviser was John W. Tukey. After working in seismic signal processing research at Western Geophysical under Ken Larner, he obtained the PhD in statistics at Harvard, where his thesis adviser was Peter Huber. He held a postdoctoral fellowship at MSRI, then joined the faculty at the University of California, Berkeley, advancing to the rank of professor. He later moved to Stanford University, rising to the position of Anne T. and Robert M. Bass Professor in the Humanities and Sciences. Donoho, an IMS Fellow, is a member of the US National Academy of Sciences and of the American Academy of Arts and Sciences.

Speaking about the award, he said, "Norbert Wiener means a lot to me; I am a proud owner of his *Collected Works* and have dived into them regularly for more than two decades."

Read more about the award, and David Donoho, in the April 2010 issue of *Notices of the AMS*, Volume 57, number 4, pages 520–521.

Statistics Olympiad: looking to the future

S. B. Rao and T. J. Rao report:

Although statistics is a young discipline, it has during the last century grown to be an essential body of information-based knowledge useful in all areas of human endeavor from individual decision making in daily life to fathoming the mysteries of nature. There will be a great demand in the future for statisticians to help in decision making by government, industrial and research establishments.

It is one of the aims of the CR Rao Advanced Institute of Mathematics, Statistics and Computer Science (AIMSCS) to encourage talented young students, both rural and urban, to pursue professional and research careers in statistics .In order to raise awareness of statistics, and to encourage those with an aptitude for numbers and numerical reasoning to study statistics, a couple of years ago Dr. C. R. Rao suggested conducting a Statistics Olympiad, on similar lines to the Mathematics Olympiad. Following his suggestion, a team of statisticians, headed by Dr. T. J. Rao and Dr. S. Bendre, organized the First Statistics Olympiad, for the first time in India and probably in the whole world, in June 2009. The Olympiad involved administering tests to students at the high school/junior college levels in the cities of Hyderabad and Visakhapatnam. About 270 students took the test. The questions were not the routine or conventional type from mathematical statistics, but framed to test the ability of students to cross-examine data, detect misuses of statistics, statistical comprehension, table and chart reading, and so on (all at the respective syllabus levels), together with a general knowledge of official statistics expected at school level. A special grading scheme was devised to discriminate between, and select, those with an aptitude for statistical reasoning and ability to deal with numbers. The top twenty students were felicitated at a function held on June 29, 2009,the birth date of Professor Mahalanobis, which is declared by the Government of India as Statistics Day. (The first Statistics Day was observed on June 29, 2007). During the felicitation ceremony, a booklet was distributed giving biographical accounts of three outstanding statisticians belonging to three different generations, namely P. C. Mahalanobis, C.R. Rao and S.R.S. Varadhan, to serve as role models for the young students in India aspiring to be statisticians.

Encouraged by the success of this, the Second Statistics Olympiad was held on 5 June 2010. It included more centers, and in all 345 young people at the junior level (grades IX and X) and 61 at senior level (grades XI and XII) took the test. Top scorers in the tests were felicitated on 29 June 2010, on the occasion of the Fourth Statistics Day, at a function held in the University of Hyderabad Campus in Hyderabad, India.

With the experience gained so far, a committee is being set up by AIMSCS in collaboration with the University of Hyderabad to cover a larger number of schools from different States of India, and explore the possibility of creating a world forum for Statistics Olympiad along similar lines to the Mathematics Olympiad.

Statisticians all over the world are requested to offer suggestions for implementing our project. Further details can be obtained from Dr. S. B. Rao, Director of AIMSCS (email siddanib@yahoo.co.in).

Myrto Lefkopoulou Distinguished Lecturer

The Department of Biostatistics at Harvard School of Public Health has named David B. Dunson, Professor of Statistical Science at Duke University, as the 2010 Myrto Lefkopoulou Distinguished Lecturer. Professor Dunson will present a lecture on September 23, 2010, at the Harvard School of Public Health. The title of his lecture is "Building Crystal Balls: Learning from Pictures, Curves & Needles in Haystacks."

Professor Dunson said, "It is a great honor to give this lecture. Professor Lefkopoulou's ground-breaking work on methods for multiple binary outcomes had a big impact on my early research and it is a thrill to have my name listed with the distinguished group of previous winners."

The lectureship was established in perpetuity in memory of Dr. Myrto Lefkopoulou, a faculty member and graduate of Harvard School of Public Health, who died of cancer in 1992 at the age of 34; she was deeply loved by friends, students, and faculty.

Each year the Myrto Lefkopoulou Lectureship is awarded to a promising statistician who has made contributions to either collaborative or methodologic research in the applications of statistical methods to biology or medicine and/or who has shown excellence in the teaching of biostatistics. Ordinarily, the lectureship is given to a statistician within 15 years of receiving an earned doctorate.

Nominations sought

Nominations for next year's lectureship are currently being solicited and should be sent to the *Myrto Lefkopoulou Lecture Committee, Department of Biostatistics, Harvard School of Public Health, 655 Huntington Avenue, Boston, MA 02115* or to the attention of Artemis Moore e aemoore@hsph.harvard.edu. Nominations should include a letter of nomination and a CV. The deadline for submission of nominations is March 31, 2011.

Artificial Intelligence and Statistics

Mike Titterington, University of Glasgow, was Program Co-chair and IMS representative among the organizers of AISTATS 2010:

The Society for Artificial Intelligence and Statistics is dedicated to facilitating interaction between researchers in Artificial Intelligence and Statistics. The Society's main responsibility is to organize the International Conference on Artificial Intelligence and Statistics, AISTATS. AISTATS 2010 represented a major initiative in the hitherto biennial series of conferences in that it was the first in the series to be located in Europe, the intention being henceforth to hold annual conferences, alternately in Europe and on the other side of the Atlantic.

My immediate assumption, when invited to be the statistics Program Chair and discovering that Neil Lawrence of Manchester was the General Chair and Yee Whye Teh of University College London was the machine-learning Program Chair, was that this meant that it was intended to hold the conference in the UK. Not a bit of it! The tradition with AISTATS is that it should be located somewhere warm, sunny and by the sea, as a contrast to other major machine-learning meetings, in particular the flagship conference on Neural Information Processing Systems (NIPS), where 'winter' and 'skiing' are the setting keywords. In fact the location chosen was the Chia Laguna resort in Sardinia, Italy, and the timing was May 13–15, 2010.

Financial sponsorship was provided by Intel, Microsoft, Google and, most substantially, the PASCAL2 European Network of Excellence. The IMS provided co-sponsorship, which helped greatly with publicity.

The structure of conferences like AISTATS is quite different from that typical in Statistics. Aspirant presenters have to submit full papers which are rigorously reviewed, through a Senior Program Committee of 'Area Chairs' and a large cohort of reviewers. The reviews are made available to authors, who are invited to respond in brief, after which there may be further discussion among the reviewers followed by decision-making. A comparatively small number of papers are accepted for oral presentation (with no parallel sessions), a larger minority are accepted for presentation as posters and the majority are rejected; as a result, acceptance at such conferences is regarded as a distinct accolade, especially at NIPS. All accepted papers are published in the electronic *Proceedings*, available before the conference; see http://www.aistats.org.

For AISTATS 2010, the success of the gamble of trying a European location is obvious from the relevant statistics! There were 304 submissions, representing a 50% increase over 2009 and double that in 2007, and the number of participants, 217, corresponded to a similar degree of expansion. The overall acceptance rate of about 40% was maintained at about the same level as in 2009, resulting in 125 accepted papers, of which 24 were presented orally and 101 as posters. The Senior Program Committee involved 20 Area Chairs, each of whom looked after about 15 submissions, and the papers were reviewed by a Programme Committee of 306 reviewers. Each paper was reviewed by at least three reviewers and no reviewer handled more than five papers. As one can imagine, the reviewing process, based on the CMT online conference management system, involved a high level of discipline in keeping to deadlines!

The schedule of the conference included two innovations that seemed to be well received. The first of these was the decision to hold the poster sessions in the second half of each morning, followed by a substantial afternoon break, and the bulk of the oral presentations in the late afternoon/early evening. The second innovation was the introduction of 'breaking news abstracts'. These items were submitted as one-page abstracts, they were very lightly reviewed and they were presented as posters. However, they did not qualify for publication as papers in the *Proceedings*.

In addition to all the contributed material, each day began with an invited talk. Richard Gill (University of Leiden) spoke about *Forensic Statistics: Where Are We and Where Are We Going?* Simon Tavaré's (Universities of Cambridge and Southern California) talk was entitled *Approximate Bayesian Computation: What, Why and How?* and John Lafferty (Carnegie Mellon University) spoke about *Nonparametric Learning of Functions and Graphs in High Dimensions*. All three talks were enthralling and generated uniformly positive acclaim from participants.

The scope covered by the conference is indicated by the titles of the oral sessions: Network models; Statistical learning theory; Bayesian nonparametrics and causal inference; Deep learning; Approximate inference; Online learning, control and information theory; Kernel methods; Graphical models; Low-rank methods and information retrieval. Video recordings are available at http://videolectures.net/aistats2010 sardinia/

There has been overwhelmingly positive feedback about the conference, even though the Mediterranean location did let us down on one of the days with cloud and rain. There was a good level of participation on the part of statisticians but I for one hope that this will be even better at future AISTATS conferences; I hope that the above list of topics will whet the appetite. In that context, be on the lookout for announcements about AISTATS 2011, to take place in Florida in April, with David Dunson as the statistics Program Chair.

Medallion Lecture preview: Xiao-Li Meng

Xiao-Li Meng is the Whipple V. N. Jones Professor and Chair of the Department of Statistics at Harvard University. Currently he is also the statistics editor for the IMS/CUP (Cambridge University Press) series on monographs and compact textbooks (*see ad, left*). His research interests include: Statistical inference with partially observed data, pre-processed data, and simulated data; Quantifying statistical information and efficiency; Statistical principles and foundational issues, such as multi-party inferences, and the interplay between Bayesian and frequentist perspectives; Effective deterministic and stochastic algorithms for Bayesian and likelihood computation; Multi-resolution modelling for signal and image data; Statistical issues in astronomy and astrophysics; Modelling and imputation in health and medical studies; Elegant mathematical statistics. Xiao-Li's Medallion Lecture is at the JSM in Vancouver, on Monday August 2 at 10.30am.

What Can We Do When EM Is Not Applicable?

The EM algorithm and its generalizations have been applied to a huge variety of parametric-model incomplete-data problems. EM's popularity is due not to its algorithmic efficiency, but to its being a general 'recipe' allowing not-specially-trained cooks (general users) to prepare decent meals (achieve reasonable results) without having the ideal ingredients (complete data) at their disposal.

Once we leave the parametric paradigm, however, the EM formulation becomes a recipe for steamed fish when we want sashimi. For example, if we have a complete-data routine for implementing wavelets regressions, or LASSO, or kernel density estimation, how can we take advantage of the availability of this routine when the data are incomplete? Is there an EM-like general recipe for non-parametric and semi-parametric estimation with incomplete data?

The answer, of course, is *yes*, otherwise you wouldn't be reading this. The general recipe is the self-consistency principle, introduced by Efron (1967). The basic idea is quite simple and has a strong EM flavor. Let estimand $f(\cdot)$ (including nuisance parameter) be of any dimension, for instance a curve or a picture. Let Y_{com} denote the (ideal) complete data set, and Y_{obs} what we actually observe. Suppose we know how to estimate f when Y_{com} is available; label this estimate $\hat{f}_{com}(\cdot)$. We also need to know the missing-data mechanism that reduced Y_{com} to Y_{obs}, which we model via a conditional distribution $p(Y_{com}|Y_{obs}, f)$; otherwise it is not possible to estimate f correctly because of selection bias.

With this setup, let $f^{(0)}$ be an initial guess of f. Then intuitively it seems sensible to update $f^{(0)}$ via the conditional expectation of $\hat{f}_{com}$ according to $p(Y_{com}|Y_{obs}, f = f^{(0)})$. Repeating this updating process defines an iterative sequence

$$f^{(t)}_{obs}(\cdot) = E\,[\hat{f}_{com}(\cdot) \mid Y_{obs}; f = f^{(t\text{-}1)}_{obs}],\ t = 1, \ldots, \qquad (1)$$

To apply this recipe in a principled way, we must answer two questions: (a) does $f^{(t)}_{obs}$ converge to some well-defined limit $\hat{f}_{obs}$, and if so, (b) what are the statistical properties of $\hat{f}_{obs}$?

For (a), under various assumptions, a number of mathematical theorems can be used to establish convergence, the strongest of which is based on the well-known contraction mapping theorem. The same types of theorems also help to answer (b). For example, if the mapping $\mathcal{M}$ from $f^{(t\text{-}1)} \to f^{(t)}$ defined by (1) is a contraction mapping and if $\hat{f}_{com}$ converges to f in L^2 norm with rate $O(n_{com}^{-\alpha})$, then $\hat{f}_{obs}$ converges at the best rate we can hope for, $O(n_{obs}^{-\alpha})$, where n_{com} and n_{obs} are (measures of) the respective sizes of Y_{com} and Y_{obs}.

When $\hat{f}_{com}$ is the empirical CDF and $p(Y_{com}|Y_{obs}, f)$ corresponds to independent right censoring, Efron (1967) showed that $\hat{f}_{obs}$ is the well-known Kaplan-Meier estimator; Efron (1967) termed it "self-consistent" because $\mathcal{M}(\hat{f}_{obs}) = \hat{f}_{obs}$. When there is no readily-available solution, it is common to use trial-and-error until no further improvement results. The iterative scheme (1) is simply a theoretical formulation of this strategy for any estimand f. The general formulation also enables estimation/projection under arbitrary norms. For example, if $\hat{f}_{com}$ is a LASSO-like sparsity estimation procedure and L^1 norm is used, then the conditional mean operator in (1) is replaced by the conditional median under $p(Y_{com}|Y_{obs}; f = f^{(t\text{-}1)}_{obs})$

Like EM, iteration of (1) can be slow. Worse, the projection calculation (e.g., conditional mean) needed by (1) can be very demanding (though simple approximations may exist, such as for wavelets regression with soft and hard thresholding). Self-consistency, however, represents the most natural generalization of MLE (and hence EM) to incomplete-data estimation outside the parametric paradigm, regardless of one's cooking style ($\hat{f}_{com}$), because parametric MLEs are generally self-consistent asymptotically under L^2 norm (Meng, 2007). So give self-consistent estimation a try, if you have an incomplete-data problem for which you have not found an effective recipe, and can wait for it to cook!

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Meng, X.-L. (2007). A helicopter view of a self-consistent framework for wavelets and other signal extraction methods in the presence of missing and irregularly spaced data. In *Wavelets XII, Proceedings of SPIE* Vol. 6701, 670124. SPIE, Bellingham, WA.

Photo: Stacey Zavadil/The Canyons Resort

MCMSkiII

January 5–7, 2011 Park City, Utah

http://madison.byu.edu/mcmski/

The fourth joint international meeting of the IMS (Institute of Mathematical Statistics) and ISBA (International Society for Bayesian Analysis) will be held at The Canyons resort in Park City, Utah, USA, from Wednesday, January 5 to Friday, January 7, 2011. The conference center is just 40 minutes from Salt Lake City airport and is readily accessible by public transport. The meeting will feature three plenary speakers (Nicky Best, Mike Newton, and Jeff Rosenthal), and five invited sessions from internationally-known experts covering a broad array of current and developing statistical practice. There will also be nightly poster sessions and one session of contributed talks reserved for young investigators (within 5 years of PhD).

TRAVEL SUPPORT: ISBA and NSF have committed to support young researchers presenting posters or contributed talks, with preference given to senior or advanced students active in research, and preferentially to students from economically-disadvantaged countries. As such, we encourage applications from young investigators from all parts of the world; see the "Student travel" tab on the conference webpage for details. Application deadline is October 22, 2010; winners will be notified by email shortly thereafter.

AdapSkiII

Satellite meeting

January 3–4, 2011 Park City, Utah

http://www.maths.bris.ac.uk/~maxca/adapskIII/

This workshop is intended to provide an updated snapshot of recent methodological and theoretical advances in Monte Carlo methods with a strong emphasis on adaptive Monte Carlo methods in the broad sense. It will consist of four half-day sessions of 12 invited talks with discussions. As in the previous editions, it will include sufficiently long afternoon breaks to allow informal discussions, relaxation and skiing. There will be a poster session on the evening of January 3, please see the website for instructions. Registration is just $50 for those also attending the main meeting.

NSF/NIH Program solicitation

The National Science Foundation and National Institutes of Health Joint DMS/NIGMS Initiative to Support Research at the Interface of the Biological and Mathematical Sciences (DMS/NIGMS) announces a change to one of its program solicitations. Program solicitation NSF 10-579 replaces document NSF 06-607.

Two significant changes have been made that impact the format of the proposal and deviate from GPG or NSF Grants.gov Application Guide guidelines.

Project Description: *The project description should consist of two distinct parts. (1) No more than 12 pages addressing the NSF criterion of Intellectual Merit. Note that this NSF criterion corresponds with the NIH criteria of Significance, Investigators, Innovation, Approach, and Environment. (2) Up to 3 additional pages addressing the NSF criterion of Broader Impacts.*

Protection of Human Subjects/Use and Care of Vertebrate Animals: *Both NSF and NIH have rules regarding the use of human subjects and/or vertebrate animals in research. Proposals that involve human subjects or use vertebrate animals must include the information required by both agencies. See the NSF Grant Proposal Guide (Proposal Preparation, Special Guidelines) and the NIH PHS Form 398 for additional information. Information on the use of human subjects and/or vertebrate animals is considered in the review of the proposals and should be submitted separately as a Supplementary Document.*

Please be advised that the NSF Proposal & Award Policies & Procedures Guide (PAPPG) includes revised guidelines to implement the mentoring provisions of the America COMPETES Act (ACA) (Pub. L. No. 110-69, Aug. 9, 2007.) As specified in the ACA, each proposal that requests funding to support postdoctoral researchers must include a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: Grant Proposal Guide Chapter II for further information about the implementation of this new requirement).

Program information

The extraordinary growth of data-rich biology has created revolutionary opportunities for mathematically-driven advances in biological research. In this initiative, the National Institute of General Medical Sciences (NIGMS) and the National Science Foundation's Division of Mathematical Sciences (NSF/DMS) join together to promote research at the interface of the biological and mathematical sciences. The expertise of the DMS in the mathematical sciences, and of the complementary expertise of NIGMS in biological and biomedical research are expected to create new opportunities in quantitative biological research.

This competition is designed to support research using sophisticated mathematical techniques and involving significant mathematical challenges to answer biological questions in areas supported by NSF/DMS and NIH/NIGMS. A direct relationship between a biological application and the mathematical work is expected. Research teams that include scientists from both the life sciences community and the mathematical sciences community are encouraged. Both new and existing collaborations will be supported. Proposals from individual investigators will need to make the case that the individual has expertise in both fields.

Successful proposals will either identify innovative mathematics or statistics needed to solve an important biological problem or involve the formulation and analysis of new mathematical models whose analysis poses significant mathematical challenges. Research that would apply standard mathematical or statistical techniques to solve biological problems is not appropriate for this competition and should be submitted directly to NIH. Similarly, proposals with research in mathematics or statistics that is not tied to a specific biological problem should be submitted to the appropriate DMS program at NSF. Proposals designed to create new software tools based on existing models and methods will not be accepted in this competition.

Examples of areas of research that are appropriate under this competition include the following:

- Evolutionary, ecological and population dynamics;
- Differentiation and developmental processes;
- Explanatory and predictive models of cellular behavior;
- Molecular and cellular networks;
- New approaches to the prediction of molecular structure;
- Simulations of the human systemic responses to burn, trauma and other injury;
- New approaches to understanding system-wide effects of pharmacological agents and anesthetics, and their genetic and environmental modifiers.

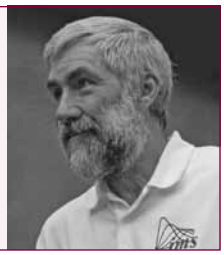
Mathematical scientists, both pure and applied, and others capable of developing the mathematical and statistical tools envisioned are encouraged to apply. The work that is supported under this initiative must impact biology and advance mathematics or statistics. Thus, collaborations between the mathematical scientists and appropriate biological scientists are expected.

Next proposal deadline: October 1, 2010

For full details about the program solicitation, please refer to http://www.nsf.gov/pubs/2010/nsf10579/nsf10579.htm?WT.mc_id=USNSF_25%26WT.mc_ev=click

Terence's Stuff: The multivariate normal

This month Terry muses on first principles proofs, elegance, brevity and the multivariate normal



How would *you* introduce the multivariate normal (*mvn*) to a group of mathematics, statistics and computer science graduate students, who had never seen its details before? I chose to do this recently, wanting to go from the univariate normal to the basic facts about the *mvn*, being careful and complete, using a minimum of pre-existing knowledge, all in two lectures. (Something had to give, you think. It was probably comprehensibility.) What basic facts? The form of its density, for a start, that it integrates to 1, and the interpretation of the positive definite (*p.d.*) matrix parameter. I wanted the *mv* normality of marginals, conditionals and linear combinations, together with the all-important result that, within the *mvn*, being uncorrelated implies being independent (*uc* ⇒ *ind*). I was surprised to realize that I had never done this before, or, that if I had, it was so long ago I'd forgotten how. Accordingly, I hit the books.

Most writers adopt what I call the *sh-direct* approach: they put up a complete expression for the density, and show that it integrates to 1 by diagonalizing the *p.d.* matrix. Regarding this as a non-trivial amount of pre-existing knowledge, I wanted an easier way. A minority of authors take an *indirect* approach: they define the *mvn* as any multivariate distribution for which *every* linear combination of its components is univariate normal. This is very slick, it generalizes to Gaussian processes, it gives some of the basic facts we want by definition(!), and we can get the *uc* ⇒ *ind* result very quickly. But at a heavy price: Cramér-Wold and the definition and uniqueness of multivariate characteristic functions. Can they be avoided? I couldn't see how. Nor could I find a third approach. Perhaps you know one?

Feller in his inimitable way has what I'll call the *nc-direct* approach in his Volume II. He defines a density φ in p dimensions to be *mvn* if -2logφ is a quadratic form in the coordinate variables. He gives no explicit normalizing constant, and makes no requirement that the quadratic form be *p.d.* These two facts, and everything else, come later, all by elementary means. He gets going by factorizing the terms in the exponent of the density to show that the 1-dimensional marginals of his *mvn* are univariate normals. This same factorization begins an inductive argument, leading to the fact that his *mvn* random vector can be linearly transformed into mutually independent univariate normals. I like this approach, even though I don't regard such inductive proofs as very illuminating. The first step involves insight, while the inductive step is really the first step again, but we do have a proof in front of us. (By contrast, how many students can recall or have ever seen a full proof of the diagonalization of a *p.d.* matrix?)

With this factorization under our belt, we quickly conclude that the matrix in the exponent is the inverse of the covariance matrix, we get the normalizing constant, and the *uc* ⇒ *ind* result falls out. It is a typically Fellerian masterpiece of brevity and elegance.

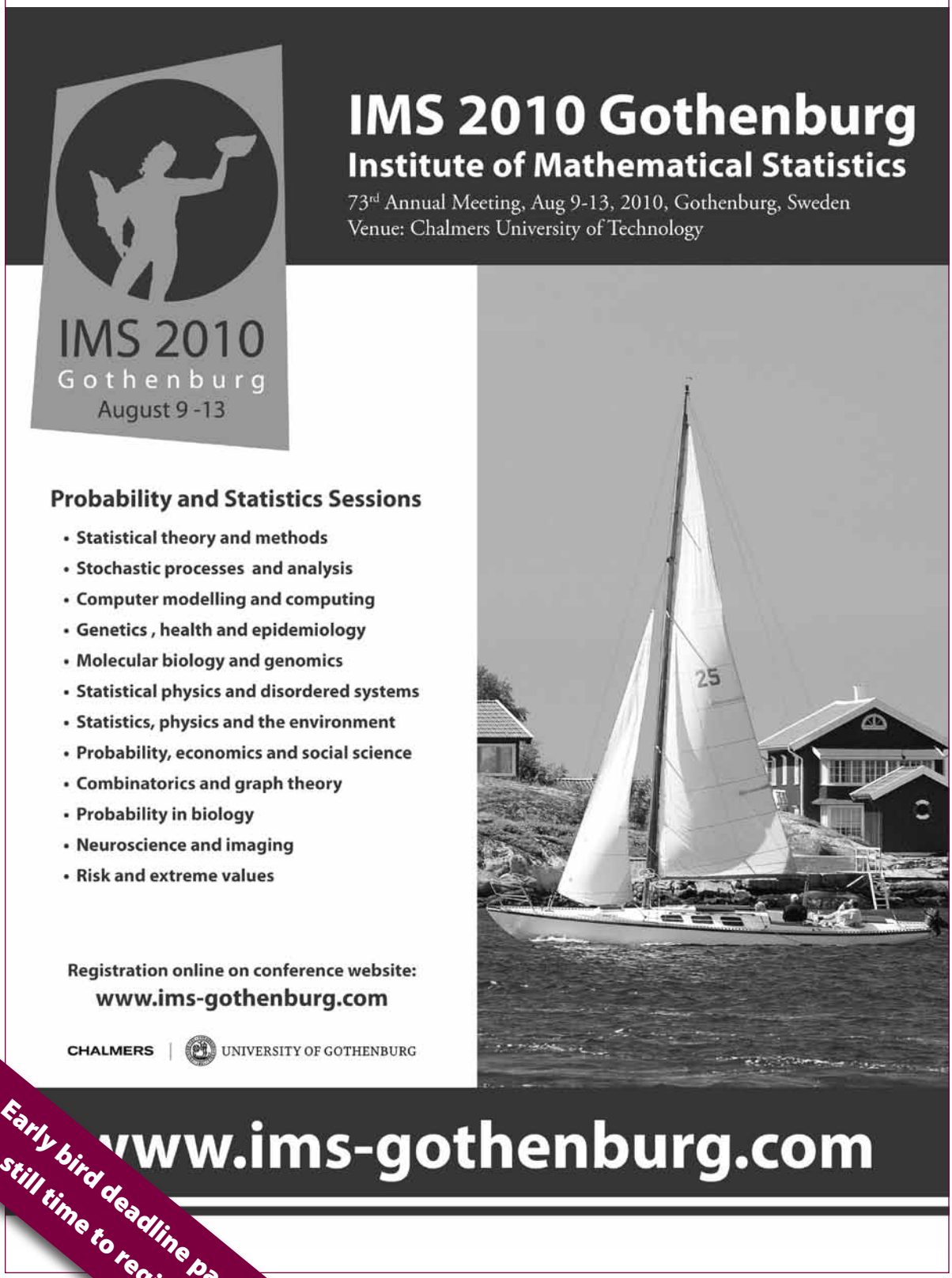
Feller only gives the conditional distribution of one component of a *mvn* random vector given the others, so it remains to give the general formulae for $\boldsymbol{E}(X_2|X_1)$ and $\boldsymbol{cov}(X_2|X_1)$. These follow easily from the *uc* ⇒ *ind* result, and can be obtained without the formula for the inverse of partitioned matrices, though the *sh*-direct approach will use this. Of course we need this formula to see how everything hangs together, so we should probably present it.

Why should we care about the foregoing? Do I think that complete proofs of basic facts from first principles, elegance and brevity have a place in the statistics curriculum? For a few things yes; for most, no. I view the formulae for ***E*** and ***cov*** just mentioned as among the most important in statistics. They are at the heart of linear models under *mv* normality, and their least squares analogues—where the ***E*** is replaced by best linear predictor ***BLP***, and the ***cov*** is of least squares residuals, not conditionals—are even more important. I find that elegant derivations under *mv* normality are more readily remembered than geometric ones involving least squares, and I do think it's important to be able to remember some of these formulae and their derivations. (Another example: Fisher's linear discriminant function as a log likelihood ratio statistic. A third: the update formulae of Kalman-Bucy state-space theory). What do I think doesn't warrant the effort of a complete proof? Things like Craig's theorem, whose sufficiency is easy, but whose necessity is not only hard, it is (in my view) "of theoretical interest only". There are many such characterization results in our subject. How do you introduce the *mvn,* and is there a third way?

Using a sledgehammer to crack a nut?

IMS meetings around the world

IMS-sponsored meeting



At a glance: forthcoming IMS Annual Meeting and JSM dates

2010

JSM: Vancouver, Canada, **July 31–August 5, 2010**

IMS Annual Meeting: Gothenburg, Sweden, **August 9–13, 2010**

2011

IMS Annual Meeting @ JSM: Miami Beach, FL, **July 30–August 4, 2011**

2012

IMS Annual Meeting @ World Congress: İstanbul, Turkey, **July 9–14, 2012**

JSM: San Diego, CA, **July 28–August 2, 2012**

2013

IMS Annual Meeting @ JSM: Montréal, Canada, **August 3–8, 2013**

2014

IMS Annual Meeting: Sydney, Australia, **July 7–11, 2014**

JSM: Boston, MA, **August 2–7, 2014**

More IMS meetings around the world

IMS sponsored meeting

JSM2010

July 31 – August 5, 2010

Vancouver, British Columbia, Canada

w www.amstat.org/meetings/jsm/2010/

The 2010 Joint Statistical Meetings will be held at the Vancouver Convention Center. Registration and hotel reservations open on April 29, 2010 at the website. Abstract submission is now closed.

The IMS program chairs are Regina Liu, Rutgers (rliu@stat.rutgers.edu), for invited sessions, and Mu Zhu, University of Waterloo, Canada (mzhu@post.harvard.edu), for contributed sessions. If you have any questions about the JSM 2010 program, please contact them.

IMS co-sponsored meeting

NEW

WNAR/IMS Meeting

June 19–22, 2011

San Luis Obispo, California

IMS Program Chair: Jay Bartroff

w http://www.wnar.org/

The 2011 WNAR/IMS meeting will be held on the campus of Cal Poly San Luis Obispo. Located halfway between San Francisco and Los Angeles, San Luis Obispo County is the heart of California's Central Coast where you can spend your day exploring miles of white, sandy beaches, browsing through unique stores and museums, wine tasting or hiking or bicycling in and around the rolling hills; the choices are endless. Here you'll discover a unique mix of food, wine, recreation, art and culture, not to mention the venerable Hearst Castle—all set amidst warm, friendly and laid-back surroundings.

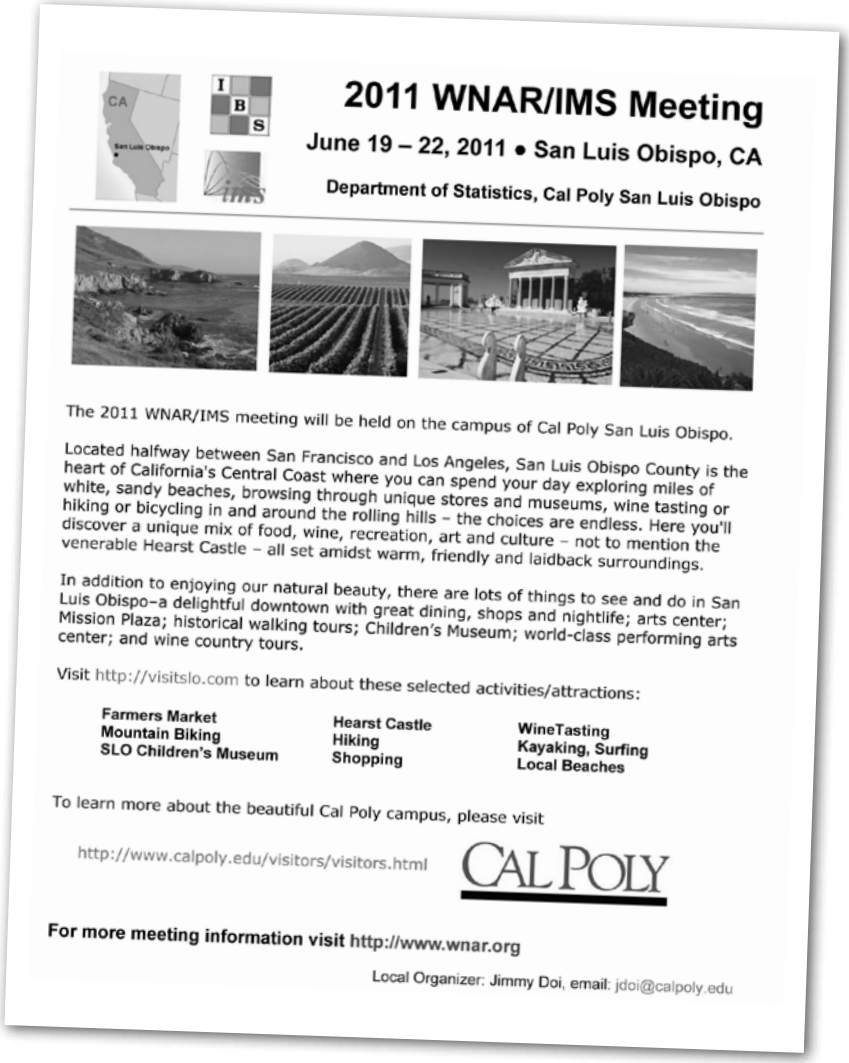
In addition to enjoying our natural beauty, there are lots of things to see and do in San Luis Obispo, a delightful downtown with great dining, shops and nightlife; arts center; Mission Plaza; historical walking tours; the children's museum; world-class performing arts center; and wine country tours.

Visit http://visitslo.com to learn about these selected activities and attractions: farmers' markets; mountain biking; SLO Children's Museum; Hearst Castle; hiking; shopping; wine-tasting; kayaking; surfing; and local beaches

To learn more about the beautiful Cal Poly campus, please visit http://www.calpoly.edu/visitors/visitors.html

For more meeting information visit http://www.wnar.org

Local Organizer: Jimmy Doi **e** jdoi@calpoly.edu



Please download and display this poster, available from www.wnar.org

More IMS meetings around the world

IMS sponsored meeting

2012 World Congress/IMS Annual Meeting
July 9–14, 2012. Istanbul, Turkey

w http://home.ku.edu.tr/~worldcong2012/

The eighth World Congress in Probability and Statistics will be organized by Koç University in Istanbul from July 9 to 14, 2012. This event is the 8th World Congress of the Bernoulli Society jointly organized with the 2012 Annual Meeting of the Institute of Mathematical Statistics. Scheduled every four years, this meeting is a major worldwide event in mathematical statistics, probability, stochastic processes and their applications. It features the latest scientific developments in these fields.

The program will cover a wide range of topics in mathematical statistics and probability, presenting recent developments and the state of the art in a variety of modern research topics and in applications, and featuring several special plenary lectures presented by leading specialists. In addition, there will be invited sessions highlighting topics of current research interests as well as a large number of contributed talks and posters.

The venue of the meeting is Koç University located in Istanbul, which is a vibrant, multi-cultural and cosmopolitan city bridging Europe and Asia. Istanbul has a unique cultural conglomeration of east and west, offering many cultural and touristic attractions, such as Hagia Sophia, Sultanahmet, Topkapı Palace and Maiden's Tower. On behalf of the Scientific Program and Local Organizing Committees, we invite you to join us in Istanbul for this exciting scientific event.

IMS sponsored meeting

2014 IMS Annual Meeting
July 7–11, 2014
Sydney, Australia

w TBC

The location for the 2014 IMS Annual Meeting has been selected as Sydney, Australia. Details will follow, but you can mark your calendars now!

Sydney Opera House, one of the world's iconic buildings

IMS co-sponsored meeting (NSF-CBMS)

Bayesian Nonparametric Statistical Methods: Theory and Applications
August 16–20, 2010
Santa Cruz, CA, USA

w www.ams.ucsc.edu/CBMS-NPBayes

Main lecturer: Peter Müller (MD Anderson Cancer Center). In addition to the ten lectures delivered by Dr. Muller, four invited speakers will deliver complementary two-hour lectures: Michael Jordan (UC Berkeley), Peter Hoff (University of Washington), Wesley Johnson (UC Irvine) and Tim Hanson (University of Minnesota).

Local organizers are Abel Rodriguez and Athanasios Kottas.

IMS co-sponsored meeting

2011 ENAR/IMS Spring Meetings
March 20–23, 2011
Hyatt Regency Miami, Florida, USA

w http://www.enar.org/meetings.cfm

IMS co-sponsored meeting

Seventh Cornell Probability Summer School
July 11–22, 2011
Cornell University, Ithaca, NY

The school will be concerned with probability problems that arise from statistical physics.

The main speakers are Marek Biskup, Geoffrey Grimmett, and Greg Lawler.

IMS co-sponsored meeting

2012 ENAR/IMS Spring Meetings
April 1–4, 2012
Hyatt Regency Washington on Capitol Hill
Washington DC, USA

w http://www.enar.org/meetings.cfm

IMS co-sponsored meeting

Stochastic Methods in Game Theory
September 8–16, 2010
Erice, Sicily, Italy

w http://space.luiss.it/stochastic-workshop/

IMS Representative on Program Committees: Marco Scarsini

Many decision problems involve elements of uncertainty and of strategy. Most often the two elements cannot be easily disentangled. The aim of this workshop is to examine several aspects of the interaction between strategy and stochastics. Various game theoretic models will be presented, where stochastic elements are particularly relevant either in the formulation of the model itself or in the computation of its solutions.

For more information please send an email to erice2010@luiss.it

More IMS meetings around the world

IMS co-sponsored meeting

IMS Asia Pacific Rim Meeting
July 3–6, 2011
Tokyo, Japan

w http://www.ims-aprm2011.org/

The second IMS Asia Pacific Rim Meeting will take place in OMIYA Sonic City conference hall (http://www.sonic-city.or.jp/modules/english/), Tokyo, Japan during the period Sunday July 3 to Wednesday July 6, 2011. This conference is sponsored by IMS, The International Chinese Statistical Association (ICSA), The International Indian Statistical Association (IISA), The Japan Statistical Society (JSS), The Korean Statistical Society (KSS) and the Institute of Statistical Mathematics (ISM). This meeting series provides an excellent forum for scientific communications and collaborations for the researchers in Asia and Pacific Rim. It also promotes communications and collaborations between the researchers in this area and those from other parts of the world. The program covers a wide range of topics in statistics and probability, presenting recent developments and the state of the art in a variety of modern research topics and in applications. Plenary speakers are Professor Peter Hall (University of Melbourne, Australia), and Professor S.R.S. Varadhan (New York University, USA). A number of celebrated scholars will deliver distinguished lectures and invited talks in this conference. Details about distinguished lecture speakers, invited talk speakers and the key dates can be found in the website.

For more information, you may contact the program chairs: Byeong U. Park (bupark@stats.snu.ac.kr) and Runze Li (rli@stat.psu.edu).

IMS co-sponsored meeting (NSF-CBMS)

Recent Advances in the Numerical Approximation of Stochastic Partial Differential Equations
August 9–13, 2010
Chicago, IL, USA

w http://math.iit.edu/~spde2010/index.html

IMS co-sponsored meeting

International Workshop on Emerging Issues and Challenges to Statistics
December 17–18, 2010
Xiamen University, Fujian, P.R. China

IMS Representative(s) on Program Committees: Jiayang Sun

w http://www.southalabama.edu/iweics/

Important Dates: August 15, 2010: deadline for contributed paper abstract submission; September 1, 2010: deadline for early registration.

IMS co-sponsored meeting

35th Conference on Stochastic Processes and their Applications
June 19–25, 2011
Oaxaca, Mexico

w TBC

IMS co-sponsored meeting

International Chinese Statistical Association 2010 Conference: Frontiers of Interdisciplinary and Methodological Statistical Research
December 19–22, 2010
Guangzhou University, Guangzhou, China

w http://www.icsa2.org/Intl_2010/

Program co-chairs: Bin Yu and Zhi-Ming Ma.

Contributed paper deadline: September 1, 2010

IMS co-sponsored meeting

34th Conference on Stochastic Processes and their Applications
September 6–10, 2010
Osaka, Japan

w http://stokhos.shinshu-u.ac.jp/SPA2010/

To be held in Osaka, Senri life center, from 6–10 September, 2010. The conference is organized under the auspices of the Bernoulli Society for Mathematical Statistics and Probability and co-sponsored by the Institute of Mathematical Statistics. It is the major annual meeting for researchers working in the field of Stochastic Processes.

The conference covers a wide range of active research areas, in particular featuring 20 invited plenary lectures presented by leading specialists. In addition, there will be a large variety of special sessions, consisting of three talks each, and contributed sessions.

Osaka Castle: photo by Joop Dorresteijn/Wikimedia

IMS co-sponsored meeting

First Announcement: Fourth International IMS/ISBA Joint Meeting "MCMSki III": Markov Chain Monte Carlo in Statistical Science
January 5–7, 2011
The Canyons Resort, Park City, Utah, USA

w http://madison.byu.edu/mcmski/index.html

Following the success of the first three joint international meetings of IMS and ISBA (the International Society for Bayesian Analysis) held in Isla Verde, Puerto Rico, and Bormio, Italy, the fourth such joint meeting will be held at The Canyons in Park City, Utah, USA on January 5–7, 2011. The unifying theme of the conference will be MCMC and its impact on the practice of statistical science in diverse areas, such as genetics, genomics, environmental health, epidemiology, and so on. However, since this is a joint meeting of two diverse organizations, talks on a wide variety of topics (both Bayesian and non-Bayesian) will be presented.

Each day will begin with a 50-minute talk by a plenary speaker, immediately followed by an invited session, then lunch, and then an afternoon break (where skiing/snowboarding will be among the options). Following the break will be another invited session, then dinner and posters; in short, "Valencia style" with ski/spa time replacing the usual beach time. There will also be a pre-conference "satellite" meeting on adaptive and other advanced MCMC methods on January 3–4, with Prof. Christian Robert again serving as lead organizer (see below).

We are very fortunate to have the following three outstanding plenary speakers: Nicky Best, Imperial College London and St. Mary's Hospital; Michael Newton, University of Wisconsin; and Jeffrey Rosenthal, University of Toronto. In addition, the members of the program committee (see below) have assembled an invited program that is as attractive as the conference venue, with sessions on: *Modeling Dependence for High-Throughput Data; Advances in MCMC for Genomics; Bayesian versus Frequentist Approaches in Observational Studies; Environmental Health Statistics;* and *MCMC for Computationally-Intensive Inverse Problems.*

The meeting will take place at the conference center at The Canyons resort, located approximately 40 minutes from Salt Lake City airport and readily accessible by public transport. The airport is a hub for Delta Airlines.

We anticipate obtaining grant support from various federal sources to help subsidize the cost of attending MCMSki III for young investigators (persons within 5 years of receiving PhD) presenting talks or posters at the meeting. In addition, ISBA has committed support for young researchers, with preference to senior/advanced students active in research, and preferentially to students from economically disadvantaged countries.

Poster included

Further details, including registration fees, hotel accommodation, and social events, are available from the official conference website. Conference registration will be available soon.

All papers presented at the conference (either invited or contributed) will be eligible for publication in the official journal of ISBA, *Bayesian Analysis*, following a refereeing process; see http://ba.stat.cmu.edu for details.

Program Committee:

Conference co-chairs: Brad Carlin, University of Minnesota, and Antonietta Mira, University of Insubria
Local Arrangements Chair: Shane Reese, Brigham Young University
Other members: Clelia DiSerio, Montserrat Fuentes, Sander Greenland, David Higdon, Peter Müller, Giovanni Parmigiani

IMS co-sponsored meeting

AdapSki III, the satellite meeting to MCMSki III
January 3–4, 2011
The Canyons, Park City, Utah, USA

w http://www.maths.bris.ac.uk/~maxca/adapskIII/

IMS Reps: Christophe Andrieu, Christian Robert

This workshop is intended to provide an updated snapshot of the methodological and theoretical advances in Monte Carlo methods with an emphasis on adaptive Monte Carlo methods in the broad sense (adaptive MCMC, adaptive population Monte Carlo, and various breeds of adaptive importance sampling amongst others), that is, algorithms that attempt to automatically optimize their performance to a given task. The workshop will consist of 4 half-day sessions on 3rd and 4th January and one or two poster sessions and will be held at The Canyons. There will be breaks on both afternoons in order to allow both informal discussions and relaxation (skiing!). There will be one or two informal poster sessions. If you would like to present a poster, please submit a short abstract to Christian Robert **e** xian@ceremade.dauphine.fr or Christophe Andrieu **e** c.andrieu@bris.ac.uk. Please note that registration to the workshop is mandatory if you are planning to present a poster.

Other meetings around the world

18th Annual Congress of the Belgian Statistical Society

NEW

October 13–15, 2010
Domaine Sol Cress, Spa, Belgium
w http://bss2010.ulb.ac.be
Invited Speakers: Els Goetghebeur (Universiteit Gent); Goran Peskir (University of Manchester); Winfried Stute (JLU Giessen); Simon Tavaré (University of Cambridge).

Workshop in Honour of Ole E. Barndorff-Nielsen's 75th Birthday

NEW

October 13–14, 2010
Aarhus University, Denmark
w http://www.thiele.au.dk/events/conferences/2010/oebn75
The workshop, held at Aarhus University, is organized jointly by CREATES, School of Economics and Management, and the Thiele Centre for Applied Mathematics in Natural Science. Organizers: Søren Asmussen, Thiele Centre; Niels Haldrup, CREATES; Bent Jesper Christensen, CREATES.

The lectures are by invitation only and are given by younger research collaborators of O.E. Barndorff-Nielsen. Anyone interested is welcome to participate.

The INFORMS Applied Probability Society Conference

NEW

July 6–8, 2011
Royal Institute of Technology (KTH), Stockholm, Sweden
w http://meetings.informs.org/APS2011
The 16th INFORMS Applied Probability Conference will take place July 6th–8th, 2011 on the campus of the Royal Institute of Technology (KTH) in Stockholm, Sweden. This conference focuses on applications of probability to stochastic systems arising in operations research, computer networks, biology and finance, and also draws specialists in related fields such as statistics and physics. The conference is considered a leading forum in applied probability. Plenary speakers: Paul Dupuis (Brown), Svante Janson (Uppsala), and Philippe Robert (INRIA).

International Conference on the Development and Applications of Statistics in Emerging Areas of Science & Technology (ICDASEAST) and 30th Annual Convention of the Indian Society for Probability and Statistics

NEW

December 4–10, 2010
University of Jammu, India
w http://www.jammuuniversity.in/upload/conference/pic240.PDF
Along with a workshop on Modern Tools in Applied Statistics.
The focus of the conference will be on the following areas: * Survey Sampling * Probability Theory * Design of Experiments * Operational Research * Statistical Quality Control * Reliability Theory * Econometrics * Multivariate Analysis * Non-and Semi-Parametric Inference * Information Theory * Bio-Informatics & Biostatistics * Data Mining * Stochastic Process /Modelling * Combinatorial Optimization * Directional Data Analysis * Communication Networks * Time Series * High Dimensional Data Analysis * Actuarial Science * All other related areas

Call for Papers

Researchers interested in presenting papers in areas relating to their field are welcome to submit an abstract of about 200 words by September, 30, 2010. See the PDF linked above for full details and registration forms.

Third International Biometrics Society (IBS) Channel Network Conference

NEW

April 11–13, 2011, Bordeaux, France
w http://www.ibs-channel-bordeaux2011.fr **e** ibschannel@isped.u-bordeaux2.fr
Every two years, the International Biometrics Society (IBS) Channel Network Conference brings together biometricians from four IBS regions: Belgium, France, Great Britain / Ireland, and the Netherlands.

Keynote speaker: Simon Tavaré, Cambridge

Invited sessions: Evaluation of prediction models with censored data; Statistical methods in system biology; Joint Modelling of longitudinal and time-to-event data

Short courses: Inference in multi-state models from interval-censored data; Statistical programming with *R*

Contributed sessions: all topics in biostatistics can be submitted. Abstract submission is open from October 15, 2010 to January 5, 2011.

NEW

MCQMC 2010

Warsaw, Poland, August 15–20, 2010

NINTH INTERNATIONAL CONFERENCE
ON MONTE CARLO AND QUASI-MONTE CARLO
METHODS IN SCIENTIFIC COMPUTING

mcqmc.mimuw.edu.pl

Biennial meeting devoted to the study of Monte Carlo and quasi-Monte Carlo methods, the relationships between the two classes of methods, and their effective application in different areas.

INVITED PLENARY SPEAKERS

- Søren Asmussen (Denmark)
- William Chen (Australia)
- Michael Gnewuch (Germany)
- Emmanuel Gobet (France)
- Stefan Heinrich (Germany)
- Pierre L'Ecuyer (Canada)
- Friedrich Pillichshammer (Austria)
- Gareth Roberts (United Kingdom)
- Ian H. Sloan (Australia)
- Grzegorz Wasilkowski (USA)

LOCAL ORGANIZERS

- Piotr Krzyżanowski
- Marek Kwas
- Leszek Plaskota
- Henryk Woźniakowski (chair)

PROGRAM COMMITTEE

- William Chen (Australia)
- Ronald Cools (Belgium)
- Josef Dick (Australia)
- Henri Faure (France)
- Alan Genz (USA)
- Paul Glasserman (USA)
- Stefan Heinrich (Germany)
- Fred J. Hickernell (USA)
- Stephen Joe (New Zealand)
- Aneta Karaivanova (Bulgaria)
- Alexander Keller (Germany)
- Frances Kuo (Australia)
- Gerhard Larcher (Austria)
- Pierre L'Ecuyer (Canada)
- Christiane Lemieux (Canada)
- Makoto Matsumoto (Japan)
- Peter Mathé (Germany)
- Thomas Müller-Gronbach (Germany)
- Harald Niederreiter (Austria)
- Erich Novak (Germany)
- Art B. Owen (USA)
- Friedrich Pillichshammer (Austria)
- Leszek Plaskota (Poland)
- Klaus Ritter (Germany)
- Wolfgang Ch. Schmid (Austria)
- Nikolai Simonov (Russia)
- Ian H. Sloan (Australia)
- Ilya M. Sobol' (Russia)
- Jerome Spanier (USA)
- Shu Tezuka (Japan)
- Xiaoqun Wang (China)
- Grzegorz Wasilkowski (USA)
- Henryk Woźniakowski (chair) (Poland/USA)

Under the honorary patronage of the Mayor of Warsaw, Hanna Gronkiewicz-Waltz

Employment Opportunities around the world

Austria: Vienna

Wirtschaftsuniversität Wien
(Vienna University of Economics and Business)
Department of Finance, Accounting and Statistics
Full Professor of Mathematics and Finance
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6978251

Canada: Hamilton, ON

McMaster University,
Department of Mathematics & Statistics
Lecturer or Assistant Professor
in Mathematics or Statistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6918627

France: Paris

ESSEC Business School
Department of Information Systems and Decision Sciences
Actuary at ESSEC Business School Paris
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6975084

United Kingdom: Bristol

University of Bristol
Chairs:

- Professor/Reader in Algebraic/Arithmetic Geometry
- Professor/Reader in Combinatorics
- Professor/Reader in Probability Theory

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6929301

United Kingdom: Oxford

Department of Statistics, University of Oxford
University Lecturer in Statistics in association with Jesus College
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6945359

United States: Claremont, CA

Claremont McKenna College
Tenure-track Faculty Position in Statistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6950941

United States: Portland, OR

Portland State University, Fariborz Maseeh
Department of Mathematics and Statistics
Post Doc or Visiting Professor in Statistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6956170

United States: Houston, TX

University of Texas School of Public Health (UTSPH)
Tenure-track faculty position at the Associate or Full Professor level in the Division of Biostatistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6923033

United States: Houston, TX

University of Texas
Tenure-track faculty position at the Associate or Full Professor level in the Division of Biostatistics
http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=6923025

International Calendar of Statistical Events

IMS meetings are highlighted in maroon with the IMS logo, and new or updated entries have the NEW or UPDATED symbol. t means telephone, f fax, e email and w website. Please submit your meeting details and any corrections to Elyse Gustafson at erg@imstat.org

August 2010

IMS July 31–August 5: Vancouver, British Columbia, Canada. **JSM 2010. w** www.amstat.org/meetings/jsm/2010/

August 1&4, 2010: Vancouver. **NISS/ASA Writing Workshop for Junior Researchers w** http://www.amstat.org/meetings/wwjr/

August 8–13: Maresias, Brazil. **7th Conference on Multivariate Distributions with Applications w** http://www.ime.usp.br/~mda

IMS August 9–13: Gothenburg, Sweden. **IMS Annual Meeting 2010. w** www.ims-gothenburg.com

IMS August 9–13: Chicago, IL, USA. **Recent Advances in the Numerical Approximation of Stochastic Partial Differential Equations. w** http://mypages.iit.edu/~duan/SPDE2010.html

August 13–17: Indian Statistical Institute, Bangalore, India. **Conference on Probability and Stochastic Processes** *[Satellite to ICM2010]* **w** http://www.isibang.ac.in/~statmath/icmprobsat/

NEW August 15–20: Warsaw, Poland. **MCQMC2010: 9th International Conference on Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing w** http://mcqmc.mimuw.edu.pl

IMS August 16–20: Santa Cruz, CA, USA. **Bayesian Nonparametric Statistical Methods: Theory and Applications. w** www.ams.ucsc.edu/CBMS-NPBayes

August 17–18: Hyderabad, India. **ICWM 2010: International Conference of Women Mathematicians** *[Satellite to International Congress of Mathematicians]* **w** http://www.icm2010.org.in/icwm2010.php

August 17–22: University of Piraeus, Greece. **European Meeting of Statisticians 2010. w** http://stat.unipi.gr/ems2010

August 19–27: Hyderabad, India. **International Congress of Mathematicians 2010.** Program Committee Chair: Hendrik W. Lenstra **w** http://www.icm2010.org.in/

August 22-27: Paris, France. **COMPSTAT 2010: 19th International Conference on Computational Statistics. w** http://www.compstat2010.fr/

August 25–28: Lefkada, Greece. **Greek Stochastics Meeting 2010 w** http://www.stochastics.gr/

August 29 – September 1: SAMSI, Research Triangle Park, NC. **Program on Complex Networks: Tutorials and Opening Workshop w** http://www.samsi.info/

August 30 – September 3: Prague, Czech Republic. **Prague Stochastics 2010. e** pragstoch@utia.cas.cz **w** www.utia.cas.cz/pragstoch2010

September 2010

September 6–7: Karlsruhe Institute of Technology, Germany. **Workshop on 'Fourier meets Wavelets in Statistics' w** http://mspcdip.mathematik.uni-karlsruhe.de/Workshop_Fourlet10/

Continues on **page 20**

International Calendar *continued*

ims September 6–10: Osaka, Japan. **34th Stochastic Processes and their Applications.** **w** http://stokhos.shinshu-u.ac.jp/SPA2010/

September 7–11: Belarusian State University, Minsk, Belarus. **Computer Data Analysis and Modeling: Complex Stochastic Data and Systems** **w** http://www.cdam.bsu.by

ims September 8–16: Erice, Sicily, Italy. **Stochastic Methods in Game Theory.** **w** http://space.luiss.it/stochastic-workshop/

September 12–15: SAMSI, Research Triangle Park, NC. **Tutorials and Opening Workshop Program on Analysis of Object Oriented Data.** **w** http://www.samsi.info/programs/2010aoodprogram.shtml

September 13–17: Brighton, UK. **RSS 2010 International Conference** **w** www.rss.org.uk/rss2010

September 25: Washington, DC. **Statistics Symposium.** **w** www.gwu.edu/~stat/75th

September 29 – October 2: São Pedro do Sul, Portugal. **XVIII Annual Congress of the Portuguese Statistical Society** **w** http://www.mat.uc.pt/~spe2010

October 2010

October 8: Paris, France. **Second HEC Finance and Statistics Conference.** **w** http://www.hec.fr/financeandstatistics2010

NEW October 13–14: Aarhus University, Denmark. **Workshop in Honour of Ole E. Barndorff-Nielsen's 75th Birthday.** **w** http://www.thiele.au.dk/events/conferences/2010/oebn75

NEW October 13–15: Spa, Belgium **18th Annual Congress of the Belgian Statistical Society.** **w** http://bss2010.ulb.ac.be

October 22: Harvard Medical School, Boston, MA. **Symposium in honor of Stephen Lagakos.** Leah Segal **e** lsegal@hsph.harvard.edu

November 2010

November 8–10: Lodz, Poland. **Multivariate Statistical Analysis Conference.** **w** http://www.msa.uni.lodz.pl

December 2010

NEW December 4–10: University of Jammu, India. **International Conference on the Development and Applications of Statistics**

Have you moved house recently?

Changed jobs?

Don't forget to tell the IMS Dues and Subscriptions Office your new contact details!

Email staff@imstat.org

in Emerging Areas of Science & Technology (ICDASEAST) and **30th Annual Convention of the Indian Society for Probability and Statistics** **w** http://www.jammuuniversity.in/upload/conference/pic240.PDF

December 5–10: Federal University of Santa Catarina, Florianópolis, SC, Brazil. **XXV International Biometric Conference (IBC)** **w** www.ibc-floripa-2010.org

December 5–10: Atlantic City, NJ. **65th Annual Deming Conference on Applied Statistics** **w** www.demingconference.com

December 6–10: Fremantle, Australia. **Australian Statistical Conference 2010** **w** http://www.promaco.com.au/2010/asc

December 15–17: University of Pennsylvania, Philadelphia, USA. **Borrowing Strength: Theory Powering Applications.** Conference in honor of Lawrence Brown's 70th birthday **w** http://stat.wharton.upenn.edu/~zhangk/BS/index.htm

December 16–18: The Hong Kong Polytechnic University. **International Conference on Applied Statistics and Financial Mathematics (ASFM2010).** **w** http://www.polyu.edu.hk/ama/events/conference/asfm2010/

December 17–18: Xiamen University, Fujian, P.R. China. **International Workshop on Emerging Issues and Challenges to Statistics.** **w** http://www.southalabama.edu/iweics/

December 19–22: Guangzhou University, Guang-Zhou, China. **2010 ICSA International Conference.** **w** tba

December 26–28: University of Dhaka, Bangladesh. **First International Conference on the Theory and Applications of Statistics** **w** http://www.dusdaa.org/conference2010

January 2011

January 3–4: Park City, Utah, USA **AdapSki III, the satellite meeting to MCMSki III.** **w** http://www.maths.bris.ac.uk/~maxca/adapskIII/

January 5–7: Park City, UT. **MCMSki III: Markov Chain Monte Carlo in Theory and Practice** **w** http://madison.byu.edu/mcmski/

March 2011

March 20–23: Hyatt Regency Miami, FL. **2011 ENAR/IMS Spring Meetings.** **w** http://www.enar.org/meetings.cfm

April 2011

NEW April 11–13: Bordeaux, France. **Third International Biometrics Society (IBS) Channel Network Conference.** **e** ibschannel@isped.u-bordeaux2.fr **w** http://www.ibs-channel-bordeaux2011.fr

April 21–24: Raleigh, NC, USA. **2011 International Conference on Probability, Statistics and Data Analysis (ICPSDA-2011).** **w** http://www.iisaconference.info/

June 2011

June 12–15: Wolfville, Nova Scotia, Canada. **2011 SSC Annual Meeting** **w** TBC

NEW June 19–22: San Luis Obispo, California. WNAR/IMS Meeting. IMS Program Chair: Jay Bartroff. **w** http://www.wnar.org/

June 19–25: Oaxaca, Mexico. **35th Conference on Stochastic Processes and their Applications.** **w** TBC

June 20-24: Beijing Institute of Technology, China. **Seventh International Conference on Mathematical Methods in Reliability.** **w** www.mmr2011.cn

July 2011

July 3–6: Tokyo, Japan. **IMS Asia Pacific Rim Meetings.** **w** http://www.ims-aprm2011.org/

Continues on **page 22**

International Calendar *continued*

July 2011 continued

NEW July 6–8: Royal Institute of Technology (KTH), Stockholm, Sweden. **INFORMS Applied Probability Society Conference. w** http://meetings.informs.org/APS2011

ims July 11–22: Ithaca, NY. **7th Cornell Probability Summer School. w** TBC

ims July 30 – August 4: Miami Beach, Florida. **IMS Annual Meeting at JSM2011.**

Miami, location of JSM 2011 and IMS Annual Meeting

August 2011

August 1–5: Sandbjerg Estate, Sønderborg, Denmark. **Conference in Honour of Søren Asmussen: New Frontiers in Applied Probability w** www.thiele.au.dk/asmussen

December 2011

December 28–31: Hong Kong, China. **International Conference on Advances in Probability and Statistics Theory and Applications: A celebration of N. Balakrishnan's 30 years of contributions to statistics. e** icaps2011@gmail.com **w** http://faculty.smu.edu/ngh/icaps2011.html

April 2012

ims April 1–4: Washington DC, USA. **2012 ENAR/IMS Spring Meetings. w** http://www.enar.org/meetings.cfm

June 2012

June 3–6: Guelph, Ontario, Canada. **2012 SSC Annual Meeting w** TBC

July 2012

ims July 29 – August 2: San Diego, California. **JSM2012.**

ims July 9–14: Istanbul, Turkey. **IMS Annual Meeting 2012 in conjunction with 8th World Congress in Probability and Statistics. w** http://home.ku.edu.tr/~worldcong2012/

August 2013

ims August 3–8: Montréal, Canada. **IMS Annual Meeting at JSM2013. w** TBC

July 2014

ims July 7–11: Sydney, Australia. **2014 IMS Annual Meeting. w** TBC

August 2014

ims August 2–7: Boston, MA. **JSM2014. w** TBC

Are we missing something? If you know of any statistics or probability meetings which aren't listed here, please let us know. Email the details to Elyse Gustafson at erg@imstat.org. We'll list them here in the *Bulletin*, and online too, at www.imstat.org/meetings

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5: June	***May 1***	May 15	June 1
6: July	***June 1***	June 15	July 1
7: August/September	***July 1***	July 15	August 1
8: October	***September 1***	September 15	October 1
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10: December	***November 1***	November 15	December 1

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October 2010

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Articles

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