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A MESSAGE FROM THE PRESIDENT

- Peter Müler -

ISBA President, 2010

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The 2010 ISBA elections took place October 15 through November 15. Thanks for all members who participated in the elections. And most of all thanks to the candidates who stood for election! We had some really tight races. Some candidates only very narrowly avoided the dangers of office. Thanks to the nominating committee for coming up with an outstanding list of candidates, and thanks to our executive secretary **Merlise Clyde** for organizing a flawless election process. Please see http://www.bayesian.org/election/ for a full report. **Fabrizio Ruggeri** is our 2012 president, **Hedibert Lopes** is our new treasurer, **Ming-Hui Chen**, **Chris Holmes**, **Antonietta Mira** and **Judith Rousseau** are the new members of the board of directors. Welcome to the new officers and board members! And big thanks to all for running for office.

Fabrizio already carried out his first duty as president-elect and named **Vanja Dukic** as the vice-chair 2011 for the ISBA program council. Vanja Dukic, Igor Prünster (Chair) and Alex Schmidt (chair 2010) will be busy next year planning our upcoming ISBA 2012 World Meeting in Kyoto, Japan.

Nomination for the *Savage award* for outstanding Bayesian thesis is closed. At this moment the prize committee is organizing the review process. Nominations for the *Mitchell prize* for outstanding Bayesian applied paper are accepted until December 31. Please see our homepage for details. *Bayesian Analysis* has received a good number of papers that were presented in the last Valencia International Meeting/ISBA World Meeting. Accepted papers will be eligible for the *Lindley prize*.

This is my last message as president. In a few weeks **Mike Jordan** will take office as ISBA president. I thank everyone who helped make 2010 a successful year for ISBA! Thanks in particular to our outgoing officers and board members. We thank **Gabriel Huerta** for serving over three long years, 2008-2010, as our treasurer. Thanks Gabriel for keeping track of our funds. This is perhaps the most onerous but also most important office. Thanks Gabriel! Thanks to **Mike West** for being an active and involved past-president. Thanks to **Herbie Lee** who is leaving the program council, and is continuing to serve as *Bayesian Analysis* editor. Herbie is doing all this while at the same time taking office as Vice-Provost at UCSC. Thanks Herbie! Thanks to the outgoing board members **Sylvia Frühwirth-Schnatter**, **Lurdes Inoue**, **Hedibert Lopes** and **Sonia Petrone**. The board of directors is the policy making body of our society. It is critical that some of our most experienced and trusted colleagues serve as board members. Thanks Sylvia, Lurdes, Hedibert and Sonia!

Thanks to all members for making ISBA a great intellectual home for all of us. Thanks and keep up the great work! Happy Holidays and all the best for 2011 to all!

In this issue

A Message from the Editor

Manuel Mendoza
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The end of the year has arrived and, as usual, many of you are working hard, trying to finish a significative portion of your assignments before the Holydays. In a similar fashion, the Editorial team of the Bulletin has made an exceptional effort to get the December issue ready earlier this month.

As our President has already reported, the most outstanding news of this term is the result of the ISBA elections. His message includes a detailed account of this fundamental activity of our Society. As part of this renewal process, Peter will soon leave the ISBA President's office and, as Editor of the Bulletin, I would like to express my acknowledgement for his always effective encouragement and support.

I find this issue specially interesting. In particular, our Annotated Bibliography Editor, Beatrix Jones, asked Luis E. Nieto-Barajas to write an article on Bayesian Nonparametrics and my personal feeling is that the result is an specially nice and timely account of the recent work in this area whose impact is growing every day. On a different direction, our Student's Corner Editor, Luke Bornn, starts an interesting exercise by inviting a number of distiguished colleagues to answer a question we think is relevant for our Bayesian statistics students. The result is not only informative but also amusing as you might confirm.

As always, I want to encourage all members of ISBA to contribute to the Bulletin with their suggestions, manuscripts and announcements. Please do not hesitate to contact me or any member of the Editorial Board. Finally, I would like to thank Pedro Regueiro for his superb job while typesetting the Bulletin issues of 2010. This been said, we'll see you next year! ▲

BAYESIAN ANALYSIS - A MESSAGE FROM THE EDITOR

UPDATE FROM BA

Herbie Lee
Editor-in-Chief
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As we near the end of my first year as editor-in-chief of Bayesian Analysis, I would like to take the time to thank all of the editorial board for helping make the journal a continued success. I would like to acknowledge the efforts of two editors who will be stepping down at the end of the year, Michael Jordan and Fabrizio Fuggeri, both of whom have done great work for the journal. Fabrizio has now established the record for longest term of service to BA, having been an editor since the founding of the journal, and being the last of the founding members to still be an active editor. We will miss both Fabrizio and Mike. But we also want to welcome in three new editors, Ming-Hui Chen, Valen Johnson, and Sonia Petrone. With their help, we will keep the journal moving forward. I am also thankful for continuing editors Kate Cowles, David Dunson, David Heckerman, Antonietta Mira, Bruno Sanso, Mark Steel, and Kert Viele. I am particularly thankful for the work of Production Editor Angelika van der Linde, System Managing Editor Pantelis Vlachos, and Managing Editor Alyson Wilson. The three of them provide crucial backend and operational support. Finally, I would like to thank the large base of associate editors, who coordinate the crucial reviewing process.

The December issue of BA features a case study on galaxy formation by Ian Vernon, Michael Goldstein, and Richard Bower. They use a Bayes linear approach to leverage a computer simulator to address a question of cosmological importance in understanding how the universe came to be as it is. This paper is discussed by David Poole, Pritam Ranjan, Earl Lawrence and David Higdon, and David van Dyk, who provide a variety of perspectives on this problem. This issue also contains five other fine articles ranging from computational methods to clustering to a case study in population biology.▲

ANNOTATED BIBLIOGRAPHY

BAYESIAN NONPARAMETRICS

Luis E. Nieto-Barajas
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Bayesian nonparametric theory handles statistical inference by assuming a nonparametric sampling distribution and making decisions via the Bayesian paradigm. By nonparametric sampling distributions we mean distribution families with infinite (or large) dimensional parameter spaces. Since the Bayesian decision theory requires us to express prior knowledge on the unknown quantities, a Bayesian nonparametric prior is a probability measure on an infinite dimensional space. What makes a prior nonparametric was clearly stated by Thomas Ferguson in his 1973 Annals of Statistics paper: a nonparametric prior must have large support in the sense that any fixed probability measure can be arbitrarily approximated by a probability measure generated by the prior.

The theory on Bayesian nonparametrics has grown rapidly since the 80's with the evolution of computers and computational techniques. It wasn't until the end of the 90's when this field had its first workshop in Belgirate, Italy, with an attendance of around 50 participants from around the world. It would be impossible for me to give an overview of the most important articles in the field, so I decided to concentrate in books. Additionally, I will preview the upcoming 8th Workshop in Bayesian Nonparametrics, to be held 26-30 June 2011 in Veracruz Mexico. There will be a series of four tutorials given by Shui Feng, Steven MacEachern, Peter Müller and Stephen Walker, so I have included a few key papers from each of these renowned researchers.

Books

- Dey, D., Müller, P. and Sinha, D. (eds.) (1998). *Practical Nonparametric and Semiparametric Bayesian Statistics*. Springer, New York. The first book devoted entirely to the area of Bayesian nonparametrics, and, for many years, the basic reference in the field. The book is a compilation of a series of articles divided in four sections: (I) Dirichlet and related processes, (II) Modeling random functions, (III) Lévy and related processes, and (IV) Prior elicitation and asymptotic properties.

- Ghosh, J.K. and Ramamoorthi, R.V. (2003). *Bayesian Nonparametrics*. Springer, New York. This is the first text book that concentrates on describing the two basic nonparametric priors which are the Dirichlet process, together with its mixtures versions, and the Polya tree. The authors dedicate large part of the exposition to discuss posterior consistency properties of the priors in different contexts. In the last chapter the authors briefly describe neutral to the right priors.

- Rodriguez, A. (2009). *Some Advances in Bayesian Nonparametric Modeling: Nested Dirichlet processes and nonparametric regression*. Lambert Academic Publishing. Abel Rodriguez made available his PhD dissertation by publishing this book. Abel proposes a nested version of Dirichlet processes. In particular he considers the stick breaking representation of a Dirichlet process, where the atoms, instead of being finite dimensional quantities, are taken as probability measures which, in turn, are assigned a Dirichlet process prior.

- Hjort, N.L., Holmes, C., Müller, P. and Walker, S.G. (eds.) (2010). *Bayesian Nonparametrics*. Cambridge University Press, Cambridge. This book is my favorite one. This is the result of putting in writing the wonderful tutorials presented during the 6th Workshop on Bayesian Nonparametrics, held in Cambridge in 2007. In one way it could be seen as the updated version of the 1998's book cited above. It covers most of the state-of-the-art Bayesian nonparametric models in both theoretical and applied settings.

Bayesian nonparametrics is also becoming a familiar tool to practitioners of statistics. There are several applied statistics books where some chapters are dedicated to Bayesian nonparametric techniques. For instance:

- Lee, H.K.H. (2004). *Bayesian Nonparametrics via Neural Networks*. SIAM. A text book that treats neural networks in the context of nonparametric regression and classification.

- Gelman, A. and Meng, X.-L. (eds.) (2004). *Applied Bayesian Modeling and Casual Inference from Incomplete Data Perspectives*. Wiley. This is a collection of articles where some of them discuss Bayesian nonparametric models, specially in Survival Analysis.

- Dey, D. and Rao, C.R. (eds.) (2005). *Handbook of Statistics, Volume 25: Bayesian Thinking, Modeling and Computation*. Elsevier. This is another compilation of articles written by leading experts and is divided in 10 sections, where one of them is dedicated to Bayesian nonparametric methods.

- Vanucci, M., Do, K.-A. and Müller, P. (eds.) (2006). *Bayesian Inference for Gene Expression and Proteomics*. Cambridge University Press, Cambridge. This is a compilation of articles where two of them make use of Dirichlet processes mixture models with two objectives, clustering and determining sample size.

- Kvam, P.H. and Vidakovic, B. (2007). *Nonparametric Statistics with Applications to Science and Engineering*. Wiley. The last chapter of the book is dedicated to describe the Dirichlet process and infinite dimensional problems.

- Christensen, R., Johnson, W.O., Branscum, A.J. and Hanson, T.E. (2010). *Bayesian Ideas and Data Analysis: An Introduction for Scientists and Statisticians*. Chapman and Hall. This is a text book where the last chapter discusses Bayesian nonparametric inference for density estimation using Dirichlet processes mixture models and mixtures of Polya trees.

Tutorial Speakers at 8th BNP Workshop

SHUI FENG (McMaster University, Canada)

- Dawson, D.A. and Feng, S. (2006). Asymptotic behavior of Poisson-Dirichlet distribution for large mutation rate. *Ann. Appl. Probab.* **16**, 562–582. Studies the asymptotic distribution of the Poisson-Dirichlet distribution when the shape parameter of the distribution approaches infinity.

- Feng, S. (2007). Large deviations for Dirichlet processes and Poisson–Dirichlet distribution with two parameters. *Electron. J. Probab.* **12**, 787–807. Studies the asymptotic distributions of the two parameter Poisson-Dirichlet (Pitman-Yor) process, when the second shape parameter goes to infinity.

- Feng, S. (2010). *The Poisson-Dirichlet Distribution and Related Topics: Models and Asymptotic Behaviors*. Springer. This is a great book that reviews the construction and studies the properties of the Poisson-Dirichlet distribution (process) with one and two parameters.

STEVEN N. MACEACHERN (The Ohio State University, USA)

- Bush, C.A. and MacEachern, S.N. (1996). A Semi-parametric Bayesian Model for Randomized Block Designs. *Biometrika* **83**, 275–286. There are two main contributions here. It draws the distinction between fixed effects and random effects for Bayesians, making the case that the prior for random effects should focus on the distribution from which they are drawn (hence NP Bayes to get full support) while the prior for fixed effects is merely about a collection of numbers (hence conventional priors are adequate). The second contribution is perhaps the most popular one for the NP Bayes community, which is the proposal of a "remixing step" to move cluster locations in a.s. discrete priors.

- MacEachern, S.N. and Muller, P. (1998). Estimating Mixture of Dirichlet Process Models. *Journal of Computational and Graphical Statistics* **7**, 223–238. Concentrates on computational algorithms for fitting nonconjugate models involving the Dirichlet Process as mixing distribution.

- MacEachern, S.N. (2000). Dependent Dirichlet Processes. *Technical Report, Ohio State University.* This is perhaps the most cited unpublished paper for the NP Bayes community. It describes the basic ideas for constructing dependent measures, via depen-

dence in the atoms and weights in stick breaking processes.

PETER MÜLLER (The U.T.M.D. Anderson Cancer Center, USA)

- Müller, P., Sansó, B., and DeIorio, M. (2004). Optimal Bayesian Design by Inhomogeneous Markov Chain Simulation. *Journal of the American Statistical Association* **99**, 788–798. This proposes a nice approach to solve decision problems by simulation, i.e., set up the maximization in expected utility maximization via a simulating annealing approach.

- Guindani, M., Zhang, S. and Müller, P. (2009). A Bayesian Discovery Procedure. *Journal of the Royal Statistical Society, Series B* **71**, 905–925. Proposes a way of interpreting the optimal discovery procedure (ODP) of John Storey as an approximate Bayes rule. The ODP is one of many classical schemes for massive multiple comparisons. The authors assume a Dirichlet process prior for the random distribution of the parameters to compare.

- Müller, P., Quintana, F, and Rosner, G. (2010). Bayesian Clustering with Regression. *Journal of Computational and Graphical Statistics* (in press). Proposes a product partition model for random clustering, modified by multiplying with an extra factor that penalizes clusters with very diverse covariates, and encourages clusters with very similar covariates.

STEPHEN G. WALKER (University of Kent, UK)

- Damien, P., Wakefield, J.C. and Walker, S.G. (1999). Gibbs sampling for Bayesian non-conjugate and hierarchical models using auxiliary variables. *Journal of the Royal Statistical Society, Series B* **61**, 331–344. The paper proposes a simplified way of doing posterior simulation by introducing auxiliary (usually uniform) variables and defining an augmented posterior. This results in standard and simple conditionals.

- Walker, S.G. (2004). New approaches to Bayesian consistency. *Annals of Statistics* **32**, 2028–2043. Proposes alternative sufficient conditions for posterior consistency. Previously, upper bounds were achieved by means of a sieve. This condition is replaced by using martingales.

- Walker, S.G., Hatjispyros, S.J. and Nicoleris, T. (2007). A Fleming-Viot process and Bayesian nonparametrics. *Annals of Applied Probability* **17**, 67–80. Connects the construction of the Fleming-Viot process with Bayesian nonparametric ideas. In particular, they use the posterior characterization of a Dirichlet process and take the sample size to be random. ▲

STUDENTS' CORNER

Luke Bornn
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Starting in this issue's Students' Corner, we will be featuring a student-focused Q & A with a panel of leading Bayesian statisticians. Many thanks to Dani Gamerman, Peter Green, Dave Higdon, Alejandro Jara, Kerrie Mengersen, Fernando Quintana, Christian Robert, Stephen Walker, and Mike West for volunteering their time. If you have a question for the panel, please email me. Also, we will continue to publish thesis abstracts of recent graduates; if you are newly graduated and would like to publish your thesis abstract, don't hesitate to contact me.

Q & A

"From your experience, what skill do you think is most often lacking in today's statistics PhD graduates? What steps can a current graduate student undertake to remedy this deficiency?"

Dani Gamerman
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I'll address the issue from the perspective of PhD programs in Brazil. The current status seems to me to be heavily based on the presentation of a research project by the supervisor and the student diligently following it towards its completion. That process leads to a successful result with an approved dissertation and papers getting published. It seems to me however that this approach is lacking a sense of perspective. As a result the student is capable in his area but has little knowledge of the relation of his research work with the general area of statistics, where his work lies. This situation limits the breadth of possibilities for his future development as a researcher in the complete sense of the word. The student becomes a very narrow specialist, sometimes with lots of papers, but his research output is useful (and becomes known) to a very small audience. This situation is partially caused by the pressure for publications where the quantity may be a significant element in the evaluation of his/her work.

Some possible remedies for that involve fostering interaction with other research groups within his/her department but specially outside the umbrella of his protected work environment. This is a complicated process to put in motion since it involves internal processing by the student. External measures to help trigger this process include attendance to as many local talks and regional meetings as possible, presentation of his/her work at national and international conferences, short and long term visits during his PhD course and finally to proceed to a postdoc position elsewhere to force even further the exposure to interaction with other people and, more importantly, other perspectives to work.

Peter Green
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I will answer this from my perspective on UK graduate students, who, differently from students in some other parts of the world, will probably have taken a 3- or 4-year undergraduate degree that is almost all mathematics and statistics, but will not usually have a Masters. They will enter a programme that will probably allow them three full years for their thesis projects, but in which teaching will be either absent, or may be informal (although this pattern is changing in favour of a taught 1st year programme in the larger departments).

Of the three key skills that a successful research student needs – curiosity, discipline and knowledge – such students seem to me to most often lack enough discipline, while their knowledge may be slightly lacking in depth and rigour. The key remedy? Revise your expectations! Research is supposed to need a deep commitment, and it will not always seem as hard, once you gain experience. Be prepared to learn some things more deeply, as required, but whatever you do, don't sacrifice that all-important curiosity!

Dave Higdon
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My thoughts here are certainly affected by working at a place that is focused on applications in the physical sciences. While some pursuits have well defined directions for statistical work, most do not. This means that the work of the statistician will focus on understanding the features of the problem: What kind of answer is needed? How soon? Is there a longer-term component to this work in which one could consider statistical research and development? Are there computational issues or restrictions that need to be considered? What statistical approaches can be useful and appreciated for this work? Can I find a way to meet the needs of this work and also fulfill my desire for interesting and challenging work?

This working environment can be challenging for a 15-year veteran in statistics, let alone a new PhD. I'm having a hard time naming the skill I'm looking for – maybe breadth or statistical perspective. I know this is basically saying a new PhD should have experience. But taking time during graduate school to try out one or two different tacks from your thesis can be helpful. You'll see different problems. You'll see how other people tackle problems. You'll also see differences in how other people work with you.

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Recent studies have shown that orangutans quickly recognise when they are being copied by a human and respond with delight, trying increasingly outrageous activities which lead to mutual entertainment and understanding.

PhD students could spend more time with orangutans. Extrapolating wildly from these studies, they could learn three important skills.

1. Translation

A very common comment by employers is that statistics PhD students need to develop communication skills. An orangutan likes clear, succinct and informative messages. What is it that you do? Why should I care? What does your technical work mean? Practise talking about your work to every orangutan that you meet, including those in pubs, in suits and sitting in conference rooms. Find a level of communication that works for you and for them.

2. Integration

Whether they remain in research lab or venture into the jungle of the 'real world', most statistics PhD students will work as part of a team. Like the orangutan, team members are more likely to respond enthusiastically to your ideas and involvement if they see that you are trying to understand them. What is their perspective of the problem? What are their needs, timelines, skills and perspectives? How can you work together for mutual benefit and push each other to new achievements and insights?

3. Differentiation

It may come as a surprise, but most people in the world don't know what a statistician does. It may come as more of a surprise that neither do most statisticians. Interacting with an orangutan will help to identify what it is that you do that is different. What is your (ecological) niche? What do you contribute that is different from an information scientist, a computer scientist, a mathematician, a spatial scientist, an engineer? And again, why is this important? Why should the orangutan interact with you? Importantly, declare yourself as a statistician. If we don't recognise ourselves, how do we expect others to recognise us and demand our unique skills?

Apart from these three attributes, orangutans can also teach life skills like swinging through trees and scratching your head with your foot. These are always useful additions for a student's cv.

Fernando Quintana and Alejandro Jara
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This is certainly a tough one, especially considering the wide variety of PhD programs around the world. Given that most PhD students will end up working outside the academic environment, we think that more emphasis should be given to the improvement of communication, presentation and writing skills. Career success increasingly depends upon developing these complementary skills, even for those who stay in academia. A natural way to improve them is the inclusion of a specific course in the list of PhD core requirements, which would aim at training students for conveying scientific information effectively, giving effective oral presentations, and writing well structured and organized articles, reports and grant proposals. Complements to this course could be: i) to start encouraging students to par-

ticipate and give talks in meetings, conferences and seminars as soon as possible; ii) to involve students in consulting activities, where direct communication with people working in different fields and the preparation of reports becomes a necessity; and iii) to involve students in teaching activities, specially in elementary classes, where the instructor or TA needs to deliver explanations to some nontrivial concepts in a clear and clean way.

Christian Robert
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First, let me stress that I restrict my answer to French PhD graduates and warn the reader that the environment for PhD students in French institutions strongly differs from the ones in UK or US universities. Even though our students have a proper five-year training in maths, probability and statistics (plus possibly additional fields like economics, computer science, engineering, sociology, or, more rarely, biology, astronomy, ecology), there is not the same progressive integration of graduate students within the research faculty body as the one we see in the UK or the US. PhD students remain students till the end of their thesis and often beyond. This is of course a terrible situation that we are trying to alleviate at our individual level, when the conditions allow as in CREST.

Due to this partial isolation from more senior researchers, our PhD students often lack both the ability to engage in collaborative works and to conduct separate projects in parallel. This puts them at a clear disadvantage when starting as assistant professors since they need to catch up at this level as well as prepare (a lot of) new courses. The solution is to get them to interact with senior researchers as early as possible during seminars, lectures and meetings. Once again, this evaluation is fairly special to the local conditions.

Else, and to answer more precisely the Bulletin question, I consider the difficulty in writing papers a common occurrence among our PhD students. It often is a gruelling process for them to have a paper completed at a level such that it can be considered for publication. To me, this is much more an issue than lacking proper bases in probability or in a field of specialisation/application. The remedy is to work on writing skills from the start of the thesis, or even before, trying to write short pieces evaluated by peers and faculty. In addition, refereeing papers as early in the thesis as possible helps a lot by providing examples as well as counterexamples. One of my colleagues at CREST had once a weekly refereeing seminar running around the papers submitted to the major econometrics journal he was editing.

Stephen Walker
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The measure of success remains publication and many PhD graduates find it hard to develop and write good papers with the knowledge and curiosity developed solely from their PhD studies.

Inquisitiveness to be able to sit down and play around with a pencil and paper, intelligence to guide the work in sensible directions, persistence, more persistence, and a belief you can find things. A new thought or idea; find and push it. Think it through.

Abundance of knowledge allows a clearer image of how various bits and pieces seemingly unrelated can be connected. Reading (lots of) papers, not only contemporary, makes a huge difference. Not necessarily their intricate details, but the ideas, techniques, how it all works.

Mike West
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Much of what any of us "lacks" in terms of professional "skills" is, simply, experience; and there's only one track to a "remedy": Practise, Practise Practise! Much of what we do as teachers, researchers and practitioners is develop our ideas and the products of our work for written, visual and oral presentations; and in all forms, "today's statistics PhD" students can never have enough practice. If I were to pick just one specific, then it has to be presentation slides for seminars and conferences - on both the visual aids and the acting/oral presentation. Be creative and showcase your artistic sensibilities; ditch the repeat slides with bulleted lists and far too much text; challenge yourself to create slides built mainly around pictures with few words – even with no text at all; build experience and self-confidence with short, informal practice talks for "friends," and use them to experiment with presentation ideas; and don't feel obliged to stick to the script (so long as you end on time!). ▲

NEWS FROM THE WORLD

CALL FOR ANNOUNCEMENTS

Sebastien Haneuse
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I would like to encourage those who have any announcements or would like to draw attention to an up-coming conference, to get in touch with me and I would be happy to place them here.

Announcements

2012 ISBA World Meeting Planning has already begun for the 11th ISBA World Meeting, to be held in June 2012 in Kyoto, Japan. See the June 2010 issue of the ISBA Bulletin for the announcement and more information www.bayesian.org/bulletin/1006.pdf.

I would like to encourage those who have any announcements or would like to draw attention to an up-coming conference, to get in touch with me and I would be happy to place them here.

Meetings and conferences

Adapski III: Advances in Monte Carlo, Park City, UT, 3-4th January, 2011.

Following an enthustiastic reponse to the earlier editions of the workshop in 2005 and 2008, 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 optimise 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!).

Additional information can be found at www.maths.bris.ac.uk/%7Emaxca/adapskIII/.

MCMCSki III: Markov Chain Monte Carlo in Theory and Practice, Snowbird, UT, 5-7th January, 2011.

A central theme of the conference will be Markov chain Monte Carlo (MCMC) and related methods and applications in the 21 years since the publication of Gelfand and Smith (1990, JASA), the paper that introduced these methods to mainstream statisticians. The conference will also feature three plenary speakers (Nicky Best, Mike Newton, and Jeff Rosenthal) and six invited sessions from internationally known experts covering a broad array of current and developing statistical practice. As with the first joint IMS-ISBA meeting in Isla Verde, Puerto Rico,and the second and third joint meeting in Bormio, Italy, nightly poster sessions will offer substantial opportunity for informal learning and interaction.

Additional information can be found at madison.byu.edu/mcmski/

Fourth Annual Bayesian Biostatistics, Houston, Texas. 26-28th January, 2011.

Current and prospective users of Bayesian biostatistics are invited to join others with similar interests for a three-day conference sponsored by the Department of Biostatistics at The University of Texas MD Anderson Cancer Center. Researchers are invited to submit abstracts for consideration as contributed presentations at the conference. All topics in Bayesian biostatistics are acceptable, including clinical trial design and analysis, health policy, epidemiology, health economics, clinical decision making, comparative effectiveness, and bioinformatics. Submit abstract title; text of 150 words or less; authors, affiliations, and contact information via e-mail to Lydia Davis (lbdavis@mdanderson.org). Submission Deadline: October 1, 2010. Applicants will be notified of the Program CommitteeÕs decision by November 1, 2010.

All participants are encouraged to display a poster at the conference poster session and discussion. If interested, send an abstract (up to 300 words) to Lydia Davis (lbdavis@mdanderson.org) by November 15, 2010.

Online registration and additional information about Bayesian Biostatistics Conference 2011 is available at biostatistics.mdanderson.org/BBC2011.

Conference in Honour of Professor Adrian F. M. Smith on Hierarchical Models and Markov Chain Monte Carlo, Heraklion, Greece. 2-5th June, 2011.

In Bayesian statistics, two influential papers in the latter part of the 20th Century -reprinted in Volume III of Breakthroughs in Statistics, Springer-Verlag- were co-authored by Adrian Smith. These papers contain two central ideas in the theory and practice of modern Bayesian statistics, namely Hierarchical Models (Lindley and Smith, Journal of the Royal Statistical Society, Series B, 1972) and Markov chain Monte Carlo (Gelfand and Smith, Journal of the American Statistical Society, 1990). This conference will showcase many key advances that continue to be made, using these ideas, by many established and younger researchers.

Research involving hierarchical models and MCMC continues to grow at an astonishing rate, spanning a broad spectrum of topics in medicine, engineering, scientific computation, business, psychology, bio-informatics, computational physics, graphical models, neural networks, geosciences, and public policy. This explosion of Bayesian ideas is, in part, the result of papers authored or co-authored by Adrian Smith.

Additional information can be found at afmsmith.com/index2.htm.

International Research Conference on Bayesian Learning, Istanbul, Turkey. 15-17th June, 2011.

In all domains of research, a major part of the problem that needs to be solved involves the task of managing the uncertainty inherent in the problem. In that instance, Bayesian Learning provides a powerful methodology to researchers, enabling them to reach effective decisions in light of evidence. With its ability to incorporate prior knowledge to the inference process, Bayesian Learning appeals to researchers for both of its theory and applications.

Interested individuals from academic and business worlds are invited to come together to discuss and communicate on challenging issues related to theory of Bayesian learning and applications in finance & accounting, general management, marketing, organizational behavior and production & operations within the historic and mystic environment of Istanbul while we will celebrate the 310th birthyear of Rev. Bayes.

Additional information can be found at marc.yeditepe.edu.tr/yircobl11.htm.

8th World Congress in Probability and Statistics, Istanbul, Turkey. 9-14th July, 2012.

Jointly organized by the Bernoulli Society and the Institute of Mathematical Statistics and scheduled every four years, this meeting is a major worldwide event for statistics and probability, covering all its branches, including theoretical, methodological, applied and computational statistics and probability, and stochastic processes. It features the latest scientific developments in these fields.

The program will cover 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, with in-depth sessions on applications of these disciplines to other sciences, industrial innovation and society. It will feature several special plenary lectures presented by leading specialists. In addition, there will be many invited sessions highlighting topics of current research interests, as well as a large number of contributed sessions and posters.

The venue of the meeting is Grand Cevahir Hotel & Convention Center 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, Topkapi Palace and Maiden's Tower.

Additional information can be found at www.worldcong2012.org.

Short courses and workshops

Workshop on Bayesian Inference for Latent Gaussian Models with Applications, Zurich, Switzerland. 2-5th February, 2011.

Latent Gaussian models have numerous applications, for example in spatial and spatio-temporal epidemiology and climate modelling. This workshop brings together researchers who develop and apply Bayesian inference in this broad model class. One methodological focus is on model computation, using either classical MCMC techniques or more recent deterministic approaches such as integrated nested Laplace approximations (INLA). A second theme

of the workshop is model uncertainty, ranging from model criticism to model selection and model averaging.

Håvard Rue will give an INLA tutorial on the first day. Further confirmed invited speakers are Renato Assunção, Gonzalo García-Donato, Alan Gelfand, Finn Lindgren, Douglas Nychka, Christopher Paciorek and Stephen Sain. Contributed talks and a poster session complete the four-day program.

Additional information can be found at www.math.uzh.ch/bilgm11.

2011 International Workshop on Objective Bayesian Analysis, Shanghai, China. 11-15th June, 2011.

Following earlier meetings on objective Bayes methodology the principal objectives of OBayes2011 are to facilitate the exchange of recent research developments in objective Bayes methodology, to provide opportunities for new researchers to shine, and to establish new collaborations and partnerships that will channel efforts into pending problems and open new directions for further study. O-Bayes2011 will also serve to further crystallize objective Bayes methodology as an established area for statistical research.

Additional information can be found at www.sfs.ecnu.edu.cn/Obayes2011/index.html.

2011 Applied Bayesian Statistics School: Hierarchical Modeling for Environmental Processes, Bolzano/Bozen, Italy, 20-24th June, 2011.

The ABS schools, organised in Italy since 2004 by CNR IMATI and University of Pavia, aim to present state-of-the-art Bayesian applications, inviting leading experts in their field. The 2011 topic is Hierarchical Modeling for Environmental Processes and the lecturer will be Alan Gelfand, Duke University, USA. This course is intended to expose the value of hierarchical modeling within a Bayesian framework for investigating a range of problems in environmental science. In particular, we focus on stochastic modeling for such problems driven by the general hierarchical perspective, [data — process, parameters][process — parameters][parameters]. This specification is richer than it may appear, as the course will demonstrate. More importantly, it allows the model development to focus on the environmental process of interest, integrating the sources of information that are available. Primary problems of interest include assessment of environmental exposure, fusion of environmental data from different sources, and assessing environmental change and its potential impact on ecological processes.

The course will have a practical orientation, emphasizing model development, computation and inference driven by real examples. The school will make use of lectures, practical sessions, software demonstrations, informal discussion sessions and presentations of research projects by school participants.

Additional information can be found at www.mi.imati.cnr.it/conferences/abs11.html.

Eight Workshop on Bayesian Nonparametrics, Veracruz, Mexico. 26-30th June, 2011.

The workshop aims at presenting the latest developments on Bayesian nonparameteric statistics, covering a wide range of theoretical, methodologic and applied areas. The meeting will be structured in 4 tutorials on special topics, a series of invited and contributed talks and contributed posters sessions. For those interested this event will be preceded by the Mexican Workshop on Bayesian Statistics (TAMEB) which will feature a day of introductory courses (in Spanish) to Bayesian statistics.

Scientific committee: David B. Dunson, Subhashis Ghosal, Jim Griffin, Nils L. Hjort, Michael I. Jordan, Yongdai Kim, Antonio Lijoi, Ramses H. Mena, Peter Müler, Luis E. Nieto, Igor Pruenster, Fernando A. Quintana, Yee W. Teh and Stephen G. Walker.

Additional information can be found at www.bnpworkshop.org/.▲