



Bernoulli News

Newsletter of the *Bernoulli* Society For Mathematical Statistics and Probability

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Editor

Victor M. Panaretos
Section of Mathematics,
EPFL, Switzerland

Contact

victor.panaretos@epfl.ch



A VIEW FROM THE PRESIDENT

The year 2013 is being recognized as a special International Year of Statistics (Statistics2013, <http://www.statistics2013.org/>) by professional societies around the world. This particular year is distinguished by the 300th anniversary of the publication of Jakob Bernoulli's *Ars Conjectandi*. It is also the 250th anniversary of the publication of Thomas Bayes paper *An Essay Toward Solving a Problem in the Doctrine of Chances*. Indeed, 2013 is also being celebrated under the banner of Mathematics of Planet Earth (MPE) through numerous companion society collaborations (<http://www.crm.cat/PlanetEarth/>).

There is no doubt much to celebrate with regard to the tremendous accomplishments that have been made in probability, statistics and their applications over the past three centuries. This is an especially exciting time to celebrate the unique prominence of probability and statistics that has been achieved within the diverse spectrum of contemporary mathematical sciences.

So, if you are wondering how you might become involved, please take advantage of the opportunity to (co-) organize a special Bernoulli Society sponsored public event in your region for some time in 2013. (This was the Homework Problem assigned in the last issue of Bernoulli News, due anytime in 2013.) The Bernoulli Society has a special committee working diligently to support the Statistics2013 and MPE initiatives around the world. I continue to urge everyone to please consult the committee's web page www.bs2013.org for ideas and suggestions on how you, with students and colleagues in your region, can be globally recognized for your 2013 event, and even more to come up with your own ideas for recognition of probability & statistics education, research, and applications! At the society level, a special commemorative issue of the Bernoulli Journal will also appear in 2013 in addition to the usual four volumes. The Bernoulli Society is also collaborating with the American Mathematical Society in connection with the 2013 Mathematical Congress of the Americas (http://www.umalca.org/web/?page_id=1429) to be convened in Guanajuato, Mexico, and with the Institute of Mathematical Statistics (IMS) in planning a special public lecture at the joint statistics meeting in Montreal, Canada, each in special recognition of Jacob Bernoulli and *Ars Conjectandi*.

.... *Continued on page 1*

Deadline for the next issue: September 30, 2012
send contributions to: victor.panaretos@epfl.ch

A View from the President (continued from front cover)

The Committee on Probability and Statistics in the Physical Sciences (C(PS)²) has launched a new web page (<http://www.aueb.gr/bs-cpsps/>) and are actively pursuing ways in which to actively engage in Statistics2013 and MPE, among other things. Above all else, it is an opportunity for members to engage in the promotion of probability and statistics under the umbrellas of Statistics 2013 and MPE with the explicit support of the Bernoulli Society.

The mission of the Bernoulli Society is accomplished by the collective efforts of many colleagues around the world. I am pleased to report that this summer's 8th World Congress in Istanbul promises to be an especially vibrant program and venue to gather this summer. Adding to the diversity, there will be three distinct Bernoulli sponsored satellite meetings to further support the international research infrastructure: (i) 2nd Young Statisticians Workshop (<http://pwc2012.ku.edu.tr/>) (ii) Feza Gursey International Summer School in Mathematical Physics III: Probabilistic Aspects of Contemporary Physics (<http://www.fezagursey summerschool.com/>), (iii) Random Networks and Environments (<http://www.math.boun.edu.tr/instructors/yilmaz/RNE.html>). The World Congress involves collaboration with the Institute of Mathematical Statistics (IMS). In addition to general conference infrastructure, the Bernoulli Society is collaborating with IMS in financially assisting families with childcare support while attending the world congress. More information is available at http://www.worldcong2012.org/?p=financial_support

By all reports, the XII Latin American Congress of Probability and Mathematical Statistics (CLAPEM) recently convened in Chile and was a huge success. The Bernoulli Society provides travel support to the recipients of the Francisco Oranda-Ordaz awards for theses in probability and in statistics (<http://www.bernoullisociety.org/index.php/organization/slapem/clapem>). It is a great pleasure to congratulate the conference organizers and this year's recipients on behalf of the Bernoulli Society; see the article by Alicia Carriquiry in this issue for more details. The Bernoulli Society also joined in co-sponsoring an international one-day probability meeting (<http://www.statslab.cam.ac.uk/~grg/kesten80.html>) at Cornell to honor Harry Kesten in November 2011, and an international conference, Long-Range Dependence, Self-Similarity, and Heavy Tails, to honor Murad S. Taqqu (<http://lrd2012.web.unc.edu/sponsors/>). Congratulations go to both Harry and Murad on the occasions of their birthdays.

The Bernoulli Society welcomes a new agreement for collaboration with the European Mathematical Society (EMS) in support of the satellite meeting for young

statisticians this summer in Istanbul (<http://pwc2012.ku.edu.tr/>). The holism in collaborations between societies is further illustrated by two co-sponsored special session on Research at the Interface of Probability and Mathematical Statistics being convened at the 2nd IMS Asia Pacific Rim Meeting in Tsukuba, Japan, July 1-4, 2012 (<http://www.ims-aprm2012.org/>). The development of these special sessions partially arose out of request from young researchers for initiatives that would help to encourage and restore some of the historically strong ties between statistics and probability. The APRM sessions are a positive step in that direction, with special thanks to the speakers and the session chairs.

The inaugural award of the Bernoulli Society's Prize for an Outstanding Expository Paper in Probability will be made at the July, 2012, general assembly of the 8th World Congress in Istanbul. A new committee for the Bernoulli Society Prize for an Outstanding Expository Paper in Statistics is also now in place. The first statistics award will be made in 2014 and presented at the 60th World Statistics Congress in 2015. Nominations should be submitted to the committee chair Peter Hall at halpstat@ms.unimelb.edu.au, self-nominations are not permitted. See <http://www.bernoulli-society.org/index.php/prizes/156> for more details concerning nominations for this important award.

This is also an opportunity to express appreciation to Springer-Verlag for their support of the Bernoulli Society's new Wolfgang Doeblin Prize (<http://www.bernoulli-society.org/index.php/prizes/158>) to be awarded for the first time this summer at the 8th World Congress in Istanbul.

A special note of appreciation also goes to the Elsevier publishers in recognition of their support of speakers and young participants at each of the five assemblies noted above. Elsevier publishes Stochastic Processes and their Applications (SPA) as an official journal of the Bernoulli Society. The relationship between commercial publishers, notably Elsevier, and authors has been the subject of a rather highly publicized boycott by a group of individual mathematicians in recent months. Responsible committee members of the Bernoulli Society are acutely aware of the complexities and the need for publication resources that offer integrity, affordability, non-elite global access, marketing and distribution and long-term stability for conducting and disseminating research. In the case of SPA, recent contract negotiations conducted by a geographically diverse international committee of distinguished peers representing BernSoc were thorough and attentive to these issues and reached a short term contractual agreement that extends from now until 2015. This includes continuation of an earlier agreement by

Elsevier to reduce the price of SPA by at least 10% per year over 4 years, beginning this year. A more detailed summary of costs and comparison with other commercial and non-commercial products is available at the Bernoulli web site. New information age publication clearly presents some of the most important challenges faced by our profession today.

Looking further ahead to conferences, the 36th Stochastic Processes and their Applications (SPA) meeting will take place in Boulder, Colorado, in July 2013, <http://math.colorado.edu/spa2013/>, followed by the 59th World Statistics Congress of the ISI in Hong Kong in August 2013

<http://www.isi2013.hk/en/index.php>. The Bernoulli Society is also sponsoring a public lecture to be delivered at the joint statistical meetings of the ASA and IMS in Montreal for the special year 2013. The organizers are working hard to provide high quality assemblies of the international research community during this special year.

The special recognition of Oded Schramm's immense contributions to probability and stochastic processes are being recognized in the newly created Oded Schramm Lecture in Probability and Stochastic Processes Series. Some biographic information about Oded is available at <http://research.microsoft.com/enus/um/people/schramm/memorial/>. The lecture will be given annually and will be featured at meetings co-sponsored by the IMS and Bernoulli Society having a strong attendance by researchers in probability and stochastic processes. The inaugural lecture will be presented by Itai Benjamini, Renee and Jay Weiss, Chair in the Department of Mathematics at the Weizmann Institute, Israel, at the SPA conference in Boulder, 2013. An endowment has been established in honor of Oded Schramm to help support the travel expenses of the lecturer over the years to come. A donors list will be published annually on the web pages of IMS and the Bernoulli Society, and in our respective newsletters. In the meantime, we are very grateful to the initial donors for their generosity. The logistics for contributions to this fund are being managed by IMS at the web site <https://secure.imstat.org/secure/orders/schrammcontribution.asp>.

The World Statistics Congress in Hong Kong is being built on a theme of 'Youth in Statistics', a theme that the Bernoulli Society has taken to heart as well over the past several years. The Bernoulli Society's subsidy of PhD student and partial subsidy of postdoc memberships has provided access to the diverse benefits of Bernoulli membership to our youngest (in PhD years) colleagues. Bernoulli membership secretary Josef Steinebach is actively monitoring this investment to encourage continued career memberships to the benefit of all. I continue to urge all of us to proactively engage in the process of teaching the value of professional membership to future generations of new researchers. It is value that I have come to see routinely in our day-to-day operations. The infrastructure required to support

conferences, workshops, publications, special honors and recognitions, collaborations and solidarity on a global scale is clearly dependent on the existence of strong professional societies in which members work together.

The issue of balancing infrastructural "costs" of large international assemblies of members with resources, especially for new researchers and those from developing countries, ranks among the greatest challenges to professional societies. Local organizers are requested to search out reliable low cost lodging alternatives to post on conference web sites. Models for mitigation of costs for the future should involve "information age" resources. An example, perhaps, is the development of an 'academic conference couch-surfing network' involving researchers and young professionals across the diverse spectrum of academic disciplines participating in international conferences. Regardless of efforts to find resources to partially subsidize expenses, there is a clear need for creative ways to provide low cost infrastructure beyond what is available on the general market. In the meantime, the organizers of our conferences have worked very hard to find the lowest possible rates to host our conferences according to historic standards and with subsidies to students and members from developing countries. Please join me in showing your appreciation of the organizers for professional altruism at its best.

Two initiatives that require continued nurturing if they are to fulfill their intended potential are: (i) The Mentorship Program and (ii) StatProb. The Mentorship Program is an especially relevant way in which the Bernoulli Society membership can be directly involved in carrying out its primary mission for the welfare of mankind. However, it is very new and depends on the active participation of our membership if it is to succeed. So, if you have not already done so, then please consider registering at http://statmentoring.nr.no/statmentoring/index.php/Statistical_mentoring_for_Ph.D_students_in_the_developing_world. It is another important way in which the Bernoulli Society achieves its broad mission and for which individual members can take special pride.

The Bernoulli Society involvement in StatProb <http://statprob.com/> electronic encyclopedia initiative has stalled as the result of complex administrative issues involving numerous professional societies and Springer-Verlag. However, thanks to the efforts of some dedicated editors, a foundation of material is in place and explorations are underway to find a way forward for the Bernoulli Society. There will be more to report in this regard in a future issue.

Both of the initiatives (i), (ii) noted above are only possible as a result of information age technology, but they provide great opportunities for the diverse spectrum of members at all stages of their careers to be engaged in communicating the advancement of research in probability and statistics on a global scale.

It is a tremendous privilege to be able to publish Henry P. McKean's beautiful remembrance of his friend and colleague, K. Itô, delivered at the 34th Conference on Stochastic Processes and Their Applications in Osaka, July of 2010. Their collaboration was an historic occurrence for its impact on the development of probability theory, and it is most heartwarming to witness the tremendous level of respect and friendship that this clearly encompassed on the human side.

In closing, I wish to thank James Norris and the other members of the Committee on Conferences on Stochastic Processes (CCSP) for their outstanding service and to welcome the new chair Jean Bertoin and committee members whose names can be found at <http://www.bernoullisociety.org/index.php/organization/ccsp>.

Also, as this issue of the newsletter goes to press, a transition has occurred in the editorship of Stochastic Processes and their Applications (SPA) from past editor

Thomas Mikosch to new editor Takashi Kumagai. Please join me in thanking Thomas and the rest of the editorial board for their dedicated service, and in welcoming Takashi and the new members of the SPA editorial board.

I look forward to seeing many of you soon in Istanbul. The meeting of the General Assembly is scheduled for Tuesday, 10, July, and provides a time and place for me to learn more about your views, too. This will be followed by an awards ceremony and reception. I am sure we have lots to discuss. Hope to see you there.

*Ed Waymire, Corvallis, USA
President of the Bernoulli Society*

News from the Bernoulli Society

Itai Benjamini to give Inaugural Schramm Lecture at SPA, July 29—August 2, 2013, Boulder, Colorado

The IMS and the Bernoulli Society have recently cooperated to create a new joint lecture in probability and stochastic processes, named in honor of Oded Schramm. The lecture will be given annually and will be featured at meetings (co)-sponsored by the IMS or the Bernoulli Society with a strong attendance by researchers in probability and stochastic processes. The inaugural Schramm lecture will be delivered by Itai Benjamini at the Stochastic Processes and their Applications meeting to be held in Boulder, Colorado, July 29 to August 2, 2013.



Professor Itai Benjamini

For more information, see:

<http://math.colorado.edu/spa2013/>

Itai Benjamini holds the Renee and Jay Weiss Professorial Chair in the Department of Mathematics, Weizmann Institute for Science. His research focuses on geometry and probability, including the interplay between structure and invariants of spaces, such as the isoperimetric profile, volume growth, scale invariance or hyperbolicity and properties of random processes and systems living in these spaces. These include percolation, variants of random walks, harmonic functions, random spanning trees and random metric spaces. In addition to understanding the random processes, his study led to purely geometrical results.

He collaborated extensively with Oded Schramm and has co-edited his selected works, along with Ole Häggström.

The Oded Schramm Lecture Endowment Fund

Individual and corporate contributions to support this new IMS/Bernoulli Society jointly sponsored annual lecture in probability, honoring Oded Schramm, are

invited at <https://secure.imstat.org/secure/orders/schrammcontribution.asp>

IMS/Bernoulli World Congress, July 9—14, 2012, Istanbul, Turkey: Important Information

The eighth World Congress in Probability and Statistics (www.worldcongr2012.org) will be held on July 9–14, 2012, in Istanbul, Turkey. Scheduled every 4 years, it is jointly organized by IMS and the Bernoulli Society. It will feature several special plenary lectures (<http://www.worldcongr2012.org/?p=speakers>: eight named lectures, five medallion lectures and a public lecture) presented by leading specialists. In addition, there will be 40 invited sessions (http://www.worldcongr2012.org/?p=invited_sessions) highlighting topics of current research interests, as well as a large number of contributed sessions and posters (see also the detailed entry in the “Forthcoming Meetings” section of this issue).

The deadline for abstract submission is April 27, 2012 (with notification of acceptance by May 7, 2012); the early registration deadline is May 21, 2012.

On behalf of the Program Committee and the Local Organizing Committee, we invite you to join us in Istanbul for this exciting event. With your participation, the 2012 World Congress will be a memorable meeting.

Elvan Ceyhan and Mine Çağlar, Co-chairs of the Local Organizing Committee
Arnoldo Frigessi, Chair of the Program Committee

SPA 2014 Location Announced, July 28—August 1, 2014, Buenos Aires, Argentina

The 37th Conference on Stochastic Processes and Applications (SPA) will take place in Buenos Aires

during the week July 28 to August 1, 2014.

Agreement of Cooperation Between the Bernoulli Society and the European Mathematical Society

Professional societies in the mathematical sciences exist to provide an infrastructure and solidarity that supports research and educational agenda that involve many activities with typically artificial geographic boundaries. Certainly, there is an abundance of evidence for the benefits of international collaborations at the scale of individual members. It also holds true that societies themselves can benefit in providing mutual support for initiatives by publicizing events and pooling resources.

In this spirit of collaboration, the Bernoulli Society President Ed Waymire and the President of the European Mathematics Society Marta Sanz-Solé are pleased to announce a new formal agreement between the two societies aimed at strengthening support of the advancement of probability and mathematical statistics and their applications.

The details of this agreement, approved by the councils of both societies and positively endorsed by the Chair of the Bernoulli Society’s European Regional Committee Laszlo Markus involves a pledge to organize joint

scientific events, such as conferences, workshops, schools and special sessions pertaining to research in probability, statistics and their applications. This will include member discounts to registration fees at scientific events organized by either the Bernoulli Society or the European Mathematical Society. The term of the agreement is for a three year period, with the option for either of the societies to terminate this arrangement with a six month courtesy notice.

The first co-organized activity under this agreement is the joint support of the 2nd Young Statisticians Satellite Workshop to the 8th World Congress in Probability and Statistics in Istanbul this summer.

Ed Waymire (President, Bernoulli Society)
Marta Sanz-Solé (President, European Mathematical Society)

Editor’s note: This article also appeared in Issue 83 (March 2012) of the EMS Newsletter.

Special Bernoulli/IMS Session at APRM 2012

The Bernoulli Society for Mathematical Statistics and Probability, with the Institute of Mathematical Statistics, will sponsor two sessions of 105 minutes each, entitled “Research At the Interface of Probability and Mathematical Statistics I, II” at the IMS Asia Pacific Rim Meeting, Tsukuba, Japan, July 2–4.

Each session will consist of three speakers giving talk of 30 minutes. Raghu Varadhan and Peter Hall have agreed to serve as session chairs for these sessions.

News from the Committee on Probability and Statistics in the Physical Sciences, C(PS)²

C(PS)² has launched its new website <http://www.aueb.gr/bs-cpsps/>, hosted in the Athens University of Economics and Business (AUEB, Athens, Greece), since December 2011. This website serves to provide information on the mission, the membership and the activities of C(PS)².

Currently, C(PS)² is sponsoring three major forthcoming international conferences with active proposals toward the realization of Invited/Special Sessions. These efforts are also promoting the Bernoulli Society's partnership in the Mathematics for Planet Earth (MPE2013) <http://www.mpe2013.org> and the International Year of

Statistics (Statistics2013) <http://www.statistics2013.org> initiatives.

Fresh ideas and initiatives for the organization of workshops and/or sessions/conferences under the auspices of C(PS)² in pertinent areas of interest (e.g. Astrophysics, Biophysics, Geophysics, etc.) are most welcome and strongly encouraged for further consideration after communication to the chairman of C(PS)².

*Harry Pavlopoulos,
C(PS)² Chairman*

Web-based mentoring for PhD students in statistics at Universities in developing countries

The first year of the international web-based tutoring program for PhD students in statistics at universities in developing countries has now passed. It has been, and still is, challenging to organize the communication between mentors and students. Until now, 20 mentors have been matched to 22 students. We have several additional mentors in who are still waiting for their student, mostly because we try to match also the scientific interests. We need a large pool of mentors to be able to match the student's needs. We have also a few students who have not been linked to a mentor yet. Recently, we interviewed 18 mentors and 16 students. The general impression is that many students wish more direct help on their thesis work than what this mentoring program is intended to give them. Also, many students need more funding, which also cannot be provided by our program. In the future, it is important for us to tell to the students better what he or she can expect. One-third of the mentor/student pairs is functioning very well or reasonably well. Another third of student/mentors had little contact for various reasons, but we see a clear potential to improve this and we invited both parts to start again with a new spirit. In some cases, it was not clear who should take the initiative to establish the contact. We will in the future suggest that the student has the main responsibility to make and maintain the contact. The last third of student/mentor pairs had minimal contact, probably because the students were not very interested, or, in a few cases because the mentor was not able to help the student with his or hers specific needs (for instance, funding). We think that the contact between most of these pairs will just die out. We see it as an acceptable that approximately 50% of the matches

were successful. We wish, however, to improve this score, and reduce the failures as much as possible. We will improve the way we present the mentoring, for both students and mentors, and we will monitor the interactions a bit closer.

An important decision that has been taken is to extend the mentoring program also to master students. There are countries with no PhD program, but where mentoring is needed at the master level. In Africa especially, there are many master students in statistics who need help in their master thesis (material, data, type of analysis, presentation of results, etc.). Compared to more specialized PhD projects, it will be easier for mentors to help master students. We believe that this extension of the mentoring program will allow us to reach many more universities and students, and make a larger impact. But before we start with master students (and in fact we are considering to run a pilot project in Ethiopia first), we need 20--30 more mentors. Later, when we will extend our focus to also include non-African countries, the numbers will be even larger.

Please volunteer as a mentor, by joining the program on the web: <http://statmentoring.nr.no> We need many new mentors in particular in various applied areas!

This mentoring program is run by members of the ISI and BS based in Oslo, Norway, together with Magne Aldrin and Arnoldo Frigessi. You can email them at statmentoring@nr.no

Arnoldo Frigessi

Awards & Prizes

Bernoulli Society Prize for an Outstanding Survey Article

A new committee has been assembled for statistics focus of the Bernoulli Society Prize for an outstanding survey article in probability or mathematical statistics, with Peter Hall as chair. Nominations of papers with a

focus in statistics may be submitted until January 1, 2014, to

halpstat@ms.unimelb.edu.au

The Francisco Aranda Ordaz Award

The Francisco Aranda Ordaz award is given every two or three years and honors one doctoral dissertation in statistics and one in probability written by Latin American students studying anywhere in the world or by students of any nationality who received the PhD from a university in Latin America.

The award was established to honor the memory of the distinguished Mexican statistician Francisco Javier Aranda Ordaz, who died suddenly in 1991. It is jointly administered by the Latin American Regional Committee (LARC) of the Bernoulli Society and by the Latin American Society of Probability and Mathematical Statistics (SLAPEM) and is given out during each CLAPEM.

Francisco Javier Aranda Ordaz (1951--1991)

Francisco Aranda was born in Mexico City in 1951 and obtained both a BS and an MS from the Universidad Nacional Autónoma de México (UNAM). He then went to Imperial College London where he received a PhD in Statistics in 1981, under the direction of Sir David Cox. Upon returning to Mexico, he joined the faculty in UNAM, where he worked until his untimely death in 1991. Francisco was an outstanding statistician, both in the areas of research and education. He published a large number of articles in first-tier journals including *Biometrics* and *Biometrika* and was a strong proponent of the collaboration between statisticians and scientists in other disciplines. He was also a good friend to many of us and a wonderful mentor for those of us who in the late 1980s were only starting our professional careers. He will always be missed.

The 2009--2012 award

The award committee for 2009--2012 was chaired by Alicia Carriquiry, Iowa State University, USA. Other committee members (in alphabetical order) are: Guido del Pino, Pontificia Universidad Católica de Chile; Alejandro Maas, Universidad de Chile; José León, Universidad Central de Venezuela; Gonzalo Perera, Universidad de la República; Maria Eulalia Vares, Centro Brasileiro de Pesquisas Físicas, Brasil.

A total of 22 dissertations were submitted for consideration by the committee. About half were in the area of statistics and half in the area of probability. All of the dissertations described high quality research; the Committee's work was difficult and every student must be congratulated. In the end, the Committee awarded one top prize and four Honorable Mentions in each of the two areas. The two winners were invited to receive their awards in person and to present their work at the conference in a special invited session. Their travel and local expenses were jointly financed the Bernoulli Society, the Pontificia Universidad Católica de Valparaíso, the Universidad de Valparaíso, The Centro de Modelamiento Matemático, the Pontificia Universidad Católica de Chile and the Universidad de Santiago de Chile.

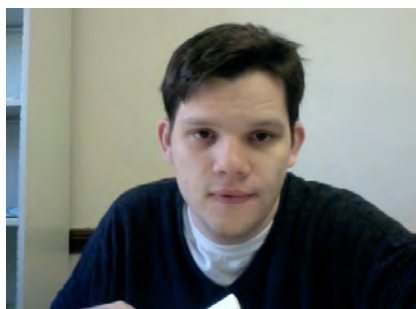
Honorable Mentions

Several dissertations received honorable mentions thanks to the originality and quality of the research presented. These were (in alphabetical order, major professor in parenthesis): Luis Gutiérrez Inostroza, Pontificia Universidad Católica de Chile (statistics, Fernando Quintana); Marcelo Richard Hilário, IMPA (probability, Vladas Sidoravicius); German Ibacache Pulgar, Universidade de São Paulo (statistics, Gilberto Alvarenga); Daniel Manrique, Carnegie Mellon University (statistics, Stephen Fienberg); Vinicius Diniz Mayrink, Duke University (statistics, Joseph Lucas); Jean-Christophe Mourrat, Pontificia Universidad Católica de Chile (probability, Alejandro Ramirez and Pierre Mathieu); Daniel Remenik, Cornell University (probability, Richard Durrett); Daniel Rodrigues Valesin, Ecole Polytechnique Fédérale de Lausanne (probability, Thomas Mountford).

And the winners were...



Pamela Nerina Llop was awarded the Francisco Aranda Ordaz award in the area of statistics. Pamela received her PhD in Mathematics with a focus on Statistics from the Universidad Nacional del Litoral, Argentina in 2011. The title of her dissertation was *Densidades, Regresión y Clasificación para Datos Funcionales* (Densities, Regression and Classification for Functional Data), which she wrote under the direction of Drs. Liliana Forzani and Ricardo Fraiman.



In the area of probability, the winner was **Antonio (Tuca) Auffinger**. Tuca is Brazilian and received his PhD in Mathematics from New York University, USA, in 2011. The title of his dissertation was *Random Matrices, Complexity of Spin Glasses and Heavy Tailed Processes*. He worked under the direction of Dr. Gérard Ben Arous.

Dissertations completed between 2012 and 2014 (the anticipated date of the next CLAPEM) will be eligible to compete for the next Francisco Aranda Ordaz award. Announcements for the award will begin appearing as

soon as information about the new CLAPEM becomes available, so please stay tuned.

Alicia L. Carriquiry

General News

International Mathematical Union Blog on Mathematical Journals

Following a resolution adopted by its General Assembly, the International Mathematical Union (IMU) set up a working group charged with "considering whether or not a joint ICIAM/IMU method of ranking mathematical journals should be instituted, and what other possible options there may be for protecting against the inappropriate use of impact factors and similar manipulable indices for evaluating research." The working group which was composed of N. Joshi, D. N. Arnold, C. Hutchins, J. D. S. Jones, M. MacCallum, P. Michor, S. Mueller and T. Tang has finished its work and produced a report which is available online at:

<http://www.mathunion.org/publications/reports-recommendations>

The working group examined the issue of why a rating of mathematical journals is desirable and submitted a detailed proposal concerning journal rating. In order to explore opinions on a larger scale and get as much input as possible from the mathematical community before formulating a policy, a "Blog on Mathematical Journals" has been set up (URL:

<http://www.mathunion.org/journals>), moderated by D. Arnold, C. Hutchins, N. Joshi, P. Olver (chair), F. Planchon and T. Tang. Everyone interested can submit his/her opinion (e-mail to: journal.blog@mathunion.org) and/or post a comment.

(Edited from the IMU Electronic Newsletter <http://www.mathunion.org/imu-net/archive/2011/imu-net-49b/>)

The purpose of the session is to present papers in contemporary mathematical statistics that also highlight the interplay between modern statistical and probability theory and applications.

We are very excited about these sessions as an effort to communicate an essential role for probabilistic and other mathematical methods to important problems in contemporary statistical research.

Ed Waymire and Ruth Williams

Henry McKean's Address at the 2010 SPA in Osaka: Some memories of K. Itô. Osaka, September 2010

I met K. Itô at Princeton in 1954, worked with him there until 1956, and continued this work at Kyôto (1957/58). I will say something about that shortly, but let me give you a brief account of my circumstances in 1954.

In school, I disliked mathematics and physics, too: *geometry* and *trigonometry* with their boring right triangles, always the same; *algebra* with its mysterious x and *physics* with its inexplicable $f = ma$, boring, mysterious and unintelligible to me who knew nothing. But then, in my last year, I had a really good calculus teacher, Dr. Conwell, and I began to see that you could do something with this stuff, and besides I was quicker at it than the other kids and I liked that part very much!

Next, I went to Dartmouth College (not to learn anything but to ski) and began slowly to get the point. The course of study was so primitive you would not believe it, but my kind teachers gave me lots of private time, and I progressed soon enough to reading de La Vallée-Poussin on the Lebesgue integral (with tears) and also P. Lévy on Brownian motion (more tears but I was hooked). Then to Cambridge, England, for a year where I learned nothing much, and to Princeton where I had the good luck to meet and to study with Will Feller.

That was a fine place and a fine time for probability. Feller, always full of good cheer and enthusiasm, would lecture once a week, getting quite excited, and the period would end before he was finished, promising to tell us “what’s really going on” next time. But next time, he would be wanting to tell us something even more interesting, so he never did say “what’s really going on.” But we didn’t care. We loved it and couldn’t wait for the next lesson.

That was 1953/55. Feller with his joyous attitude to mathematics and to life in general was the center of a remarkable little group of people of whom I must mention, especially Gil Hunt, Dan Ray and Hale Trotter, three of the best I have known, and entering into this happy family in my innocence and nearly total ignorance was a revelation to me. I never learned so much so fast or had so much fun doing it.

So, here I was, a mathematical baby, when Itô came along. At first, our communication was not easy. I was shy, not knowing Japanese, not knowing either that this person was a great master of probability, though it did not take me too long to understand that it was so. And somehow we began to talk mathematics, starting with P. Lévy whom we both admired so much, Itô in his patient, gentle way helping me over the parts I didn’t quite understand.

The things that attracted our attention most were Feller’s ideas on the general one-dimensional diffusion, Dynkin’s

ideas on the strict Markov property – both quite new at the time – and most of all, P. Lévy’s “mesure du voisinage” or “local time” as we called it. It was then I began really to appreciate Itô’s deeper understanding.

For example, it was natural to him to realize quite quickly that the elastic Brownian motion must be the result of killing the reflecting Brownian motion when its local time at 0 rises to the level of an independent exponential holding time. I would never have thought of it by myself, but he explained patiently why it must be so. That was my first experience of how authentic mathematics is really done, and my excitement over it is vivid to me still.

I had other such experiences as we worked together that year (1954/56), and it was decided that I should come to Kyôto (1957/58) and we would write a book. That took a long time (1957/64) and taught me two things. Lesson 1: Don’t write your book while things are not perfectly understood. Lesson 2: Don’t *ever* let the junior author write it! Oh, well, it did get done, but as Byron said: “Your easy writing is your damned hard reading”. And the same may be said of your damned hard writing, too!

A few words about that book. For the general diffusion, we knew how to remove the drift by use of Feller’s scale and how to reduce the scaled diffusion to standard Brownian motion by change of “clock” -- this lasted with help from Hale Trotter who saw into it quicker than we did. And then there was lots about the Brownian local time, coming in for the interpretation of Feller’s general boundary conditions in the language of sample paths and elsewhere.

The only thing we really missed was the discovery of Dan Ray and Frank Knight – later perfected by David Williams – of the Markovian properties of the local time $\tau(t,x)$ in its spatial variable x when taken at a suitable stopping time $t=T$. We even had a number of suggestive formulas before us, but paid no real attention to them, never dreaming that local time could be Markovian in x all things! So does prejudice block the view of what seems obvious afterward.

Perhaps the most important thing I learned from Itô was to be dissatisfied with any probabilistic result that cannot be understood and proved directly by looking at the sample paths. Take the Fourier integral. That’s the natural thing for representing an electrical signal as a sum of sines and cosines of various amplitudes and frequencies, but probabilities are positive numbers adding up to unity and what have sines and cosines to do with that? OK. Itô’s discussion of differential processes makes a perfect example: Fourier is not used at all – only a simple, direct investigation of the sample

path itself, with the idea that if Fourier is indispensable, can the probability have been really understood?

Sometimes, this way of thinking does not succeed, as for the theorem of Cramer–Lévy that if the sum of independent (real) variables is Gaussian, then the individual variables are Gaussian, too. Then the only known proof requires Fourier, and Hadamard’s product from complex function theory as well, and *nothing* is understood, only the *correctness* of the result is verified.

I keep thinking there must be a better way so you could say: Oh, that’s why! But I could never find it.

I decided to show you an example of this line of thought, which Itô did not know but should have made him smile. It concerns a wonderful identity having to do with Jacobi’s complete elliptic integral of the first kind:

$$K(k) = \int_0^1 \frac{dx}{\sqrt{(1-x^2)(1-k^2x^2)}} = \int_0^{\frac{\pi}{2}} \frac{d\theta}{\sqrt{1-k^2\sin^2\theta}}$$

with "modulus" $0 < k < 1$.

Doubtless most of you know it in one form or another, the oldest being Landen’s transformation (1775):

$$K(k) = \frac{1}{1+k} K\left(\frac{2\sqrt{k}}{1+k}\right).$$

Legendre (1811) proved it by direct substitution

$$x \rightarrow y(x) = \frac{(1+k')x\sqrt{1-x^2}}{\sqrt{1-k^2x^2}} \text{ with } k' = \sqrt{1-k^2}$$

Jacobi (1820) proved it by means of his theta functions. Gauss (1799) converted it into the fact that, for $0 < a < b$,

$$G(a, b) = \int_0^{\pi/2} \frac{d\theta}{\sqrt{a^2\cos^2\theta + b^2\sin^2\theta}} = \frac{1}{a} K\left(\frac{\sqrt{b^2 - a^2}}{a}\right)$$

is unchanged if a is replaced by \sqrt{ab} and b by $\frac{1}{2}(a+b)$ and Newman (1985) found a surprising elementary proof of that. But did you know that it is only a reflection of the fact that the 2-dimensional random walk $RW(2)$ viewed in oblique (45°) coordinates is just a pair of independent copies of $RW(1)$. I think Itô would have liked that – it’s an *explanation* not just a *verification*.

Proof. Look at the loop time $R = \min(n \geq 1 : x(n) = 0)$ for $RW(1)$ starting at $x(0) = 0$. This looks like 1 + another copy of the passage time from 1 to 0, from which $E_0(\gamma^R) = 1 - \sqrt{1 - \gamma^2}$ is easily deduced, and also

$$\sum_0^\infty P_0(x(2n) = 0)\gamma^{2n} = \frac{1}{\sqrt{1 - \gamma^2}},$$

since $x(2n) = 0$ only if $2n$ is a sum of (necessarily independent) successive loop times $R_1 + R_2 + \dots + R_m$. Then for $RW(2)$,

$$\begin{aligned} & \sum_0^\infty P(x(2n) = 0)k^{2n} \\ &= \frac{1}{2\pi} \int_0^{2\pi} \left| \sum_0^\infty P(x(2n) = 0 \text{ for } RW(1)) \times k^n e^{in\theta} \right|^2 d\theta \\ &= \frac{1}{2\pi} \int_0^{2\pi} \frac{d\theta}{|1 + ke^{i\theta}|} \end{aligned}$$

which may be easily reduced to

$$\frac{2}{\pi} G(a, b) = \frac{2}{\pi} \int_0^{\pi/2} \frac{d\theta}{\sqrt{a^2\cos^2\theta + b^2\sin^2\theta}},$$

with $a = 1 - k$ and $b = 1 + k$ for $0 < k < 1$.

This can be computed another way following Pólya (1928): for $RW(2)$

$$P_0(x(n) = 0) = \left(\frac{1}{2\pi}\right)^2 \int_0^{2\pi} \int_0^{2\pi} \left(\frac{\cos\theta_1 + \cos\theta_2}{2}\right)^n d\theta_1 d\theta_2$$

so

$$\begin{aligned} & \sum_0^\infty P_0(x(2n) = 0)k^{2n} \\ &= \frac{1}{(2\pi)^2} \int_0^{2\pi} \int_0^{2\pi} \frac{d\theta_1 d\theta_2}{1 - \frac{k}{2}(\cos\theta_1 + \cos\theta_2)} \end{aligned}$$

which is reduced, by the identity $\cos\theta_1 + \cos\theta_2 = 2 \times \cos 1/2(\theta_1 + \theta_2) \times \cos 1/2(\theta_1 - \theta_2)$ followed by the substitution $\theta_2 = \theta_1 + 2\theta'_2$, to the form

$$\frac{2}{\pi} \int_0^{\pi/2} \frac{d\theta}{\sqrt{(1-k^2)\cos^2\theta + \sin^2\theta}} = \frac{2}{\pi} G(\sqrt{1-k^2}, 1)$$

and you observe that $a = 1 - k$ & $b = 1 + k$ are changed into $\sqrt{1 - k^2} = \sqrt{ab}$ & $\frac{1}{2}(a + b) = 1$ as per Gauss’s variant of Landen’s transformation.

To close, I go back to Kyôto (1957/58). It was not all mathematics. There were many happy family suppers chez Itô and happy excursions to the zoo, to Heisan, to Kiyomizudera, and further off, to Nara and Hakone. Also, many light-hearted talks about this and that – and darker talk about the war and its miseries, from which I began to understand much more about Itô: his quiet wisdom, deep kindness and his compassion for all the young soldiers. I have written a little about that elsewhere, but cannot forget it here.

Domo arigato gozaimashita.

H.P. McKean

David's Musings: On password security, Republican candidates and predictability of economic crises

I recently refreshed my popular (general audience of non-mathematicians) talk on what mathematical probability says about the real world by introducing two new topics. I'm a big fan of back-of-an-envelope calculations, partly because I once wrote a book (..... *Poisson Clumping Heuristic*) consisting of one hundred such calculations, but more because I suspect that most of the real-world insights that mathematics provides can best be presented that way. If there were a Hall of Fame for back-of-an-envelope calculations then on prominent display should be the cartoon xkcd.com/936 which concludes *Through 20 years of effort, we've successfully trained everyone to use passwords that are hard for humans to remember, but easy for computers to guess.* The cartoon calculates that a password made of four common English words has more entropy than one made by substitutions of non-alphabet characters into an uncommon long word. As well as enabling an entertaining 5 minute introduction to the topic of Shannon entropy, I can then demonstrate the conclusion in real time, as follows. A popular talk demands audience participation, so before starting I asked the audience to supply 4 such words (and three numbers between 10 and 50, for the next topic) and wrote them on the board. At this point, I go to an online password strength checker, type in the four words, for instance, clockparrothappylevel, and invariably this is deemed a "strong" password. Next, I pull out the paper on which my hosts gave me some impossible-to-remember password to access their wireless network, type it in and invariably this is deemed a "weak" password. The audience looks impressed!

My second new talk topic concerns the almost finished two-year US race to determine the 2012 Republican Presidential Nominee. Almost all commentaries on the race remark that there have been an unusually large number of candidates (Sarah Palin, Rick Perry, Newt Gingrich, Michele Bachmann, etc.) whose popularity has risen and then dramatically fallen. But is it really *unusually* large? There are two ways one might think about this question. Opinion polls ask who a voter supports right now. There is no mathematical theory concerning how rapidly people can change their opinions, so studying the question via opinion poll fluctuations over time would involve purely empirical comparisons with data from previous electoral cycles. But what mathematics does say is that the probability of a specified future event happening, give the information known at time t , must evolve as a martingale. Though in general one cannot observe probabilities, in this context we can look at the Intrade prediction market (<http://www.intrade.com/>) where one can buy and sell contracts on candidates. A market price of 40 reflects a consensus probability of 40% that the candidate will be the nominee; and we can observe how the prices have fluctuated over time. Such markets are interesting because theory -- the "efficient market hypothesis" that

market prices do indicate true probabilities -- gives testable predictions. In the context under discussion, an interesting mathematical prediction is:

for any price x , if each candidate's initial price is below x , then the expected number of candidates whose price ever exceeds x equals $100/x$.

At this point in the talk, I show the data on maximum prices for each candidate.

Romney 98; Perry 39; Gingrich 38; Palin 28; Pawlenty 25; Santorum 18; Huntsman 18; Bachmann 18; Huckabee 17; Daniels 14; Christie 10; Giuliani 10; Bush 9; Cain 9; Trump 8.7; Paul 8.5.

I can then "test" the prediction using the numbers x the audience gave me before the talk. The prediction for "over 22" is $100/22$, and so on, and you can see the data matches the predictions pretty well. One could have a lengthy discussion of what this signifies -- for instance, that the smart money is not unduly influenced by fluctuating opinion polls. To me, the bottom line is that the only statistically unusual feature of the campaign in this sense has been that it started without any very prominent candidate.

A third talk topic is one that refreshes itself. Each year since 2006 the OECD has produced a "global risks report" for the World Economic Forum annual meeting in Davos, containing a graphic showing perceived likelihood and economic impact of 36 potential "risks", in categories such as economic, geopolitical, environmental, societal, technological, with the list changing somewhat from year to year. The latest report is available online (<http://www.weforum.org/reports>), and I show and discuss it briefly. But my main aim in the talk is to investigate how accurate were the old assessments. In particular, how predictable was the global late-2000s financial crisis (http://en.wikipedia.org/wiki/Late-2000s_financial_crisis), as Wikipedia calls it? I show the report written in mid-2007, at which time there were concerns about the worldwide boom in house prices, and some concerns about US subprime mortgages, but nothing dramatic had happened in other markets. The five most serious risks, combining likelihood and impact, were perceived at that time to be

Asset price collapse -- Oil price shock -- China economic hard landing -- Inter-state and civil wars -- Breakdown of civil informational infrastructure.

Given that these 5 risks were assessed to have 10--20% likelihood and that the first one actually occurred (albeit with substantially more than predicted severity), this OECD assessment is surely as good as one could hope for. Note also that the "oil price shock", assessed as

second most serious, seems in retrospect to have been about to occur in 2008 but was overtaken by the asset price collapse.

My point -- surely self-evident to Bernoulli Society readers, but not to the outside world -- is that instead of deterministic "forecasts" of uncertain aspects of the future, one should make explicitly probabilistic assessments of different possibilities. It is easy to casually assert that quantitative predictions of the future,

from Malthus on, have mostly turned out to be much less accurate than their authors supposed, but these last two talk topics give some encouragement that probabilistic assessments may be turn out more reliable.

David Aldous, Berkeley

Editor's note: This is the fifth installment of a regular opinion column.

Past Conferences, Meetings and Workshops

Snapshots of Stochastics Frontiers at 180 Degrees (SF-180)

This international symposium was held in Helsinki on 8-9 December 2011, to celebrate the 60th birthdays of three Finnish probabilists Esa Nummelin, Paavo Salminen and Esko Valkeila. The invited speakers, all long-term collaborators of the triplet, were:

- Christian Bender (Saarland U)
- Andrei Borodin (Steklov, St. Petersburg)
- Kacha Dzhaparidze (CWI, Amsterdam)
- Alexander Gushchin (Steklov, Moscow)
- Ingemar Kaj (Uppsala U)
- Takis Konstantopoulos (Uppsala U)
- Andreas Kyprianou (U Bath)
- Yuliya Mishura (Taras Shevchenko National U, Kiev)
- Pierre Vallois (Henri Poincaré U, Nancy)
- Lioudmila Vostrikova (U Angers)
- Marc Yor (Paris VI U)

In addition, Esa, Paavo and Esko gave special talks recalling their favorite theorems along their career in a special honorary session chaired by Elja Arjas. The opening speech of the meeting was given by Mats Gyllenberg. The evening program of the symposium included a traditional Finnish Stochastic Sauna evening, and was followed by a dinner spiced up with an oriental

dance show by Saara Lehto and a juggling performance by Harri Varpanen.



From left to right: Esa Nummelin, Paavo Salminen, and Esko Valkeila, three Finnish probabilists celebrating their 60th birthdays at SF-180

The meeting was organized by Lasse Leskelä (chair), Dario Gasbarra, Göran Högnäs, Ari-Pekka Perkkio, and Tommi Sottinen. The meeting was sponsored by the Finnish Doctoral Program in Stochastics and Statistics (FDPSS), Aalto University, the University of Helsinki and the Åbo Akademi University.

For more information, please see: http://web.abo.fi/fak/mnf/mate/gradschool/homepage_files/SF180.html

Lasse Leskelä (Jyväskylä)

XII Latin American Congress of Probability and Mathematical Statistics

The 12th edition of the Latin American Congress of Probability and Mathematical Statistics (CLAPEM), endorsed and co-sponsored by the Latin American chapter of the Bernoulli Society, SLAPEM, was organized by Universidad de Valparaiso, Pontificia Universidad Católica de Valparaiso, Universidad de Santiago, Pontificia Universidad Católica de Chile and Centro de Modelamiento Matemático, Universidad de Chile, in Viña del Mar, Chile. The meeting was held last March, 26th--30th, in the Hotel O'Higgins. Around 230 participants from several continents contributed to this successful, diverse and multinational meeting, confirming that the CLAPEM has become the main

periodic scientific meeting on statistics and probability in Latin America.

Activities included 14 plenary and sub-plenary talks by Madalin Guta (The University of Nottingham, UK), Michael Jordan (University of California, Berkeley, USA), Steven Lalley (University of Chicago, USA), Yanyuan Ma (Texas A & M University, USA), Fabio Martinelli (University of Rome, Italy), Carl Mueller (University of Rochester, USA), Victor Pérez-Abreu (Centro de Investigaciones Matemáticas, Mexico), Marina Vannucci (Rice University, USA), S.R.

Srinivasa Varadhan (New York University, USA), Frederi Viens (Purdue University, USA) and Grace Wahba (University of Wisconsin-Madison, USA).

The program also included 20 invited sessions in a variety of interesting topics: Levy processes, stochastic analysis, chains of infinite order, random media, random matrices, quantum probability, statistical mechanics and interacting particle systems, financial methods, probability and statistics in neuroscience, long memory models, probability and statistics in graphs, mixed models Bayesian methods, robust statistics, nonparametric statistics and functional data, spatial models and risk analysis and extremes.

The program was completed with two short courses on hot research topics by Milton Jara (Instituto Nacional de Matemática Pura e Aplicada, Brazil) and Ramses Mena (Universidad Nacional de Mexico, Mexico), 12 contributed oral and 2 contributed poster sessions (with nearly 100 papers presented), a round table in memory

of Mario Wschebor, and the Francisco Aranda-Ordaz prize session to acknowledge the best PhD theses in Latin America or by Latin American student in Probability and Statistics. This year's awarded Antonio Auffinger (PhD at Courant Institute) and Pamela Llop (PhD at Universidad del Litoral), presented their results in Viña del Mar thanks to the SLAPEM support.

Last but not least, a lively dinner party took place at the Valparaiso Sporting Club in Viña del Mar.

We would like to acknowledge the organizing institutions for making the meeting possible in a particularly difficult year for the Chilean university system. Please keep your eyes open because the XIII CLAPEM will take place in Colombia, somewhere in 2014.

Joaquin Fontbona

Long-Range Dependence, Self-Similarity and Heavy Tails: International Conference in Honor of Murad S. Taqqu



(from left to right): Herold Dehling, Thomas Miksoch, Marianne Clausel, Gennady Samorodnitsky, Murad Taqqu, Serge Cohen, Walter Willinger and Robert Wolpert.

The conference was held in Research Triangle Park, North Carolina, USA, April 19--21, 2012. It gathered around 70 participants from institutions all over the world, including USA, Canada, Mexico, UK, France, Germany, Japan and Australia. Many participants were graduate students or young researchers.

The scientific program included 28 invited talks and a poster session with 19 presentations related to the themes of the conference (long-range dependence, self-similarity and heavy tails). The topics ranged from applied to theoretical, with many talks of expository nature. The conference program, talk slides, photos and other information can be found on the conference website <http://lrd2012.web.unc.edu/>

The conference honored and celebrated the career of Murad S. Taqqu, who was among the participants. Murad S. Taqqu made outstanding contributions to the field and the profession. His limitless energy,

enthusiasm, guidance and commitment have touched many of those working with him. Numerous stories about Murad S. Taqqu, both funny and serious, were shared by participants during the talks and the conference dinner.



Murray Rosenblatt and Murad Taqqu

The event was kindly sponsored and supported by Army Research Office, Bernoulli Society, Boston University, Cornell University, National Science Foundation,

National Security Agency and SAMSI.

Vladas Pipiras and Stilian Stoev

Forthcoming Conferences, Meetings and Workshops

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

The eighth World Congress in Probability and Statistics will be in Istanbul from July 9 to 14, 2012. It is jointly organized by the Bernoulli Society and the Institute of Mathematical Statistics (www.worldcong2012.org). 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 main invited speakers, delivering the named, medallion and public lectures are:

Named lectures:

- Anestis Antoniadis, University Joseph Fourier (Laplace Lecture)
- Peter Green, University of Bristol (Bernoulli Lecture)
- Steffen Lauritzen, University of Oxford (Wald Lecture)
- Yves Le Jan, Université Paris-Sud (Doob Lecture)
- Pascal Massart, Université de Paris (LeCam Lecture)
- Stanislav Smirnov, Université de Genève (Kolmogorov Lecture)
- Maria Eulália Vares, Brazilian Center for Research in Physics (Lévy Lecture)
- Bin Yu, UC Berkeley (Tukey Lecture)

Medallion lectures:

- Sourav Chatterjee, UC Berkeley
- Nicole El Karoui, Ecole Polytechnique
- Franco Flandoli, Università di Pisa
- Alexandre Tsybakov, Université Paris VI
- Van Vu, Rutgers University

Public Lecture:

- Peter Diggie, Lancaster University

In addition, there will be 40 invited sessions highlighting topics of current research interests, as well as a large number of contributed sessions and posters.

The complete list of invited sessions include

- IS1 - Bayesian nonparametrics
- IS2 - Composite likelihood inference
- IS3 - Geometric Perspectives on High-Dimensional Data
- IS4 - Copula models
- IS5 - Data Depth
- IS6 - Decision theory, control theory and games
- IS7 - Extremes for complex phenomena
- IS8 - Functional data analysis
- IS9 - Graphical models, networks and causality
- IS10 - High-dimensional inference
- IS11 - Interacting particle systems
- IS12 - Large-scale multiple comparisons
- IS13 - Long-range dependence and self-similarity
- IS14 - Machine learning
- IS15 - Modern applications of Malliavin calculus
- IS16 - Markov processes
- IS17 - MCMC: Adaptive, likelihood free, particle filters and other samplers
- IS18 - Probability and computer science
- IS19 - Quantile regression; IS20 - Random combinatorial structures
- IS21 - Random matrices and applications
- IS22 - Random media
- IS23 - Rare-event Monte Carlo methods
- IS24 - Critical 2-D Systems and SLE
- IS25 - Space time data
- IS26 - Sparse signals
- IS27 - Spatial stochastic models
- IS28 - Statistical climatology
- IS29 - Statistical inference for stochastic differential equations
- IS30 - High-Throughput Genomic Assays
- IS31 - Statistical methods for neuroscience
- IS32 - Statistical methods in finance
- IS33 - Stochastic methods for equilibrium in financial markets
- IS34 - Dynamics and cubature for stochastic

- nonlinear systems
- IS35 - Stochastic geometry and spatial point processes
 - IS36 - Stochastic methods and finance
 - IS37 - Stochastic models of cancer
 - IS38 - Stochastic networks with applications
 - IS39 - Stochastic partial differential equations with applications
 - IS40 - Stochastic population genetics and evolution

The deadline for abstract submission is April 27, 2012 (with notification of acceptance by May 7, 2012); the early registration deadline is May 21, 2012.

The venue of the meeting is Grand Cevahir Hotel & Convention Center located in Istanbul which is a vibrant, multicultural and cosmopolitan city bridging

Pre-world-congress Meeting of Young Researchers in Probability and Statistics (PWCYPS), July 6–8, 2012, Istanbul, Turkey

The Pre-world-congress Meeting of Young Researchers in Probability and Statistics 2012 is a satellite meeting to the 8th World Congress in Probability and Statistics (www.worldcong2012.org).

During the weekend, the young participants will follow lectures and meet some of the key speakers and invited session organizers to the World Congress, in addition to participating to other cultural, scientific and social activities. This will allow you to be more prepared for the lectures on the World Congress and to get in contacts with some of the main statisticians and probabilists of the moment. The meeting starts on Friday 6.7. at 17.00 and ends in the evening of Sunday 8.7.: 48 hours of full activity. Invited speakers include Erhan Cinlar, Jasmine Foo, Victor Perez Abreu, Arnaldo Frigessi, Richard Davies, Bin Yu, Alexandra Schmidt, Ed Waymire and more.

If you are a young statistician or probabilist, please register and pay the registration fee here: <http://pwc2012.ku.edu.tr/registration>. Please do this as soon as possible, as places are limited. The fee is very

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.

For more visits, please visit:

<http://www.worldcong2012.org/>

On behalf of the Program Committee and the Local Organizing Committee, we invite you to join us in Istanbul for this exciting scientific event. Your participation will ensure that the 2012 World Congress will be a memorable meeting.

Elvan Ceyhan and Mine Caglar, Co-chairs of the Local Organizing Committee
Arnaldo Frigessi, Chair of the Program Committee

small, and covers full accommodation and board. Deadline is June 15th, but we wish to plan the event well, so it helps if you register as soon as possible.

Funding for this event comes from the World Bank, The European Mathematical Society, the Bernoulli Society, Biometrika, Google, the International Mathematical Union, Elsevier, Statistics for Innovation, Koc University.

I hope that you will participate to the Pre-World-Congress Meeting of Young Researchers in Statistics and Probability, helping to make it a truly global event. Come and join other young scientists!

Date: July 6--8, 2012

Venue: Koç University, Istanbul, TURKEY.

Information: ENES OZEL (enozel@ku.edu.tr)
<<mailto:enozel@ku.edu.tr>>

Website: <http://pwc2012.ku.edu.tr/>

Arnaldo Frigessi

Random Networks & Environments Post-Congress Workshop, July 16--20, 2012, Istanbul, Turkey

The aim of this workshop is to bring together researchers in probability theory studying various models such as random walks on random networks, RWREs, polymers, random graphs, percolation and other related processes. It is officially sponsored by the Bernoulli Society as a satellite event for the 8th World Congress in Probability and Statistics (July 9--14, 2012).

The workshop is co-organized by the Istanbul Center for Mathematical Sciences (ICMS) and Boğaziçi University.

Due to the physical limitations of the workshop venue (<http://www.imbm.org.tr/>), the number of participants has to unfortunately be limited to 40 (including the local participants).

For the current list of speakers and participants, see:

<http://www.math.boun.edu.tr/instructors/yilmaz/RNE.html>

Atilla Yilmaz

Feza Gursey International Summer School in Mathematical Physics III: Probabilistic Aspects of Contemporary Physics, 20 June--06 July, 2012, Istanbul, Turkey

The summer school's main aim is to provide its participants a detailed presentation of some of the research directions in the analysis of such systems. Four sets of lectures, varying between twelve and fifteen hours each, will hopefully arouse the curiosity of some of the participants, encourage them to pursue some research problems closely related to the topics presented in the summer school. The general level of the lectures should enable advanced undergraduate or graduate students, as well as post-docs, to fully benefit from participation.

The summer school is a co-sponsored by the Bernoulli Society as a Satellite meeting to the IMS/Bernoulli World Congress and features the following courses:

- Abdelmalek Abdesselam (University of Virginia, USA) "Modern Methods of Constructive Quantum Field Theory"

- Roberto Fernandez (Utrecht University, Netherlands) "Classical and Quantum Spin Models: Correlation Inequalities, Critical Behaviour and Disorder"
- Philippe Di Francesco (Commissariat à l'Énergie Atomique, Saclay France) "Integrable Combinatorics"
- Takashi Hara (Kyushu University, Japan) "Critical Behaviour of Stochastic Geometric Models and the Lace Expansion"

For more information, please visit:
<http://www.fezagurseysummerschool.com/>

24th Nordic Conference in Mathematical Statistics (Nordstat 2012), June 10--14, 2012, Umeå, Sweden

Nordstat is a biennial international meeting for statisticians and probabilists, organized by the Nordic and Baltic countries. The scientific program will include several invited speakers as well as contributed talks and posters on a broad range of topics. We welcome you to submit a contributed talk or a poster presentation.

For further information, please visit:
www.nordstat2012.se

We look forward to see you all in Umeå!

Tom Britton and Sara Sjöstedt de Luna
(Chairs of the Program Committee and the Organizing Committee)

First Conference of the International Society for Nonparametric Statistics (ISNPS), June 15--19, 2012, Chalkidiki, Greece

The First Conference of the International Society for Nonparametric Statistics (ISNPS) will take place at Chalkidiki, Greece, between June 15--19, 2012. The conference aims to bring together researchers from around the world to discuss latest advances in different topics of current research in nonparametric statistics, including curve estimation, inference for high dimensional and functional data, Bayesian nonparametrics, nonparametric machine learning, resampling methods, and semi-parametric inference. The plenary speakers are Emmanuel Candes (Stanford and CalTech), Peter Hall (U. of Melbourne and UC Davis), and Jon Wellner (U. of Washington). Special Invited Speakers include Rudy Beran, Peter Bickel, Ray Carroll, Laszlo Györfi, Wolfgang Härdle and Peter Robinson. In addition, there will be about 100 invited paper and contributed paper sessions (consisting of 3 to 4 speakers each) and several poster sessions.

The venue is the G-Hotel complex: <http://www.g-hotels.gr/> located 40 miles away from Salonica, Greece's second largest city. Salonica has an international airport with direct connections to most European capitals.

Important deadlines (registration, abstract submission, etc.) can be found at the meeting's website <http://www.isnpstat.org> that is under construction. For more information, please contact the Conference Organizers: M. Akritas, S.N. Lahiri and D.N. Politis, Ad hoc first executive committee of ISNPS, at the email address: isnps@stat.tamu.edu

Dimitris N. Politis
San Diego

The ISBA 2012 World Meeting, June 25--29, 2012, Kyoto, Japan

The premier conference of the International Society for Bayesian Analysis (ISBA) -- will be held in Kyoto, Japan, from June 25 to June 29, 2012. The program can be found at

<http://www2.e.u-tokyo.ac.jp/~isba2012/>

Invited speakers include:

- Donald A. Berry (University of Texas MD Anderson Cancer Center, USA)
- Arnaud Doucet (University of British Columbia, Canada)

- Alan Gelfand (Duke University, USA)
- Tomoyuki Higuchi (Institute of Statistical Mathematics, Japan)
- Chris C. Holmes (University of Oxford, UK)
- Christian P. Robert (University of Paris Dauphine, France)
- Aad W. van der Vaart (University of Leiden, Netherlands)
- Stephen G. Walker (University of Kent, UK)
- Mike West (Duke University, USA)

Matteo Ruggiero

Second IMS Asia Pacific Rim Meeting, July 1--4, 2012, Tsukuba, Japan

The second IMS Asia Pacific Rim Meetings has been rescheduled to July 1--4, 2012, in Tsukuba city, which is an academic town located 60km north east of Tokyo, Japan. 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. For more information, you may contact the program chairs: Byeong U. Park (bupark@stats.snu.ac.kr) and Runze Li (rli@stat.psu.edu). Please check the conference website: <http://ims-aprm2012.org/index.html> for updated information.

Recent Developments in Statistical Multiscale Methods, July 16--18, 2012, University of Göttingen, Germany

Statistical Multiscale Methods have been developed rapidly during the last decades and provide nowadays an indispensable tool for a variety of applications.

The aim of this workshop is to provide an up to date overview of the different aspects of this emerging field. This includes on the one hand a rigorous mathematical treatment of statistical multiscale estimators such as risk bound analysis, deviation inequalities and their statistical applications, e.g., the construction of confidence sets. On the other hand algorithmic and computational issues will be discussed as well, and their performance in various areas of applications, ranging from signal processing, time series analysis and financial statistics to computational genetics and bio-imaging.

Speakers include:

- Laurent Cavalier, Aix-Marseille
- Markus Haltmeier, MPI for Biophysical Chemistry Göttingen
- Marc Hoffmann, Paris IV
- Maarten Jansen, Leuven
- Zakhar Kabluchko, Ulm
- Gerard Kerkycharian, Paris VI
- Arne Kovac, Bristol
- Richard Nickl, Cambridge

- Robert Nowak, Wisconsin, Madison
- Dominique Picard, Paris VII
- Wolfgang Polonik, UC Davis
- Angelika Rohde, Hamburg
- Till Sabel, Goettingen
- Johannes Schmidt-Hieber, VU Amsterdam
- David Siegmund, Stanford
- Hannes Sieling, Goettingen
- Evgeny Spodarev, Ulm
- Vladimir Spokoiny, HU Berlin
- Alexandre Tsybakov, Paris IV
- Rainer von Sachs, Louvain la Neuve
- Guenther Walther, Stanford

Local Organization: Axel Munk, Klaus Frick, Thomas Rippl, Anja Frakstein and Steffi Greiner.

Contact and Details: For details and registration please visit

<http://www.stochastik.math.uni-goettingen.de/for916/SMM2012>

This conference is organized by the German-Swiss research group FOR 916 "Statistical Regularization and Qualitative Constraints" and is sponsored by the German Science Foundation.

Thomas Rippl, Göttingen

International Summer School on Advanced Stochastic Methods to Model Risk, September 9--22, 2012, Ulm University, Germany



The aim of the summer academy “Advanced Stochastic Methods to Model Risk” is on the one hand to give a detailed introduction into areas of probability and statistics with particular relevance for the description, modelling

and quantification of risks and on the other hand to look at specific modelling approaches used in applications – especially insurance and finance.

The DAAD (www.daad.de) supports the summer school by means of the German Foreign Office. Therefore, 20 scholarships covering the conference fee (including excursions), hotel accommodation and travel costs (country dependent flat rate) for non-German participants are available.

The summer academy will consist of several lecture series. The speakers of the summer academy are:

- Stefan Ankirchner (Bonn University)
- Søren Asmussen (Aarhus University)

- Vicky Fasen (ETH Zürich)
- Jean Jacod (Université Pierre et Marie Curie (Paris 6))
- Georg Pflug (University of Vienna)
- Mark Podolskij (University of Heidelberg)
- Jochen Ruß (Ulm University)
- Alexander Schied, (University of Mannheim)
- Volker Schmidt (Ulm University)
- Robert Stelzer (Ulm University)
- Hans-Joachim Zwiesler (Ulm University)

Additionally, the program will feature presentations by the attending young researchers and several excursions. The summer academy is open for suitably qualified PhD students, postdocs and advanced master students with an interest in the covered areas.

Note that application by May 31st, 2012, is mandatory.

Further details about the program and the application procedure can be found at the webpage of the summer academy, see

<http://www.uni-ulm.de/mawi/summer-academy-2012/>

Robert Stelzer, Ulm

Fifth Probability at Warwick Young Researchers Workshop, July 23—27, 2012, Warwick, UK



The Fifth Probability at Warwick Young Researchers Workshop will be held from 23 to

27 July 2012. It has the

principal aim of bringing together young researchers working in probability and will feature lecture courses by two excellent invited speakers, intended to be accessible to graduate mathematicians and probabilists: Graphical probability and disordered systems, Prof.

Geoffrey Grimmett (University of Cambridge) and Topics in branching processes, Prof. John Biggins (University of Sheffield). Registration is now open. For further details, please see:

<http://www2.warwick.ac.uk/fac/sci/statistics/research/paw/paw2012>

David Croydon, Warwick

Sixteenth Brazilian School of Probability, August 6--11, 2012, Recife, Brazil

The 16th Brazilian School of Probability or XVI EBP will take place in Recife, Pernambuco, Brazil, from August 06 to August 11, 2012.

The meeting website is: www.de.ufpe.br/~xviebp/

The Brazilian Schools of Probability (EBP) have been organized each year since 1997. It was an initiative of the Brazilian probabilistic community as a forum to discuss new developments in probability theory and related areas, provide an opportunity to share new

research ideas, directions and developments in the modern probability theory, to discover new possibilities for collaboration and an excellent opportunity for the students to begin their scientific life.

This time the expected number of participants is 130--150, mostly graduate students and young researchers. Activities will include mini-courses, plenary talks by invited speakers, short communications and posters. Problems sessions, discussions or round tables are also possible.

The school will take place in the Golden Tulip Recife Palace Hotel, ten minutes by car to the International Airport Guararapes and one minute walk to the beach.

The deadline for submission of abstracts is May 31, 2012.

Andrei Toom, Recife

Workshop on New Developments in Econometrics and Time Series, September 10--11, 2012, Rome, Italy

The Collaborative Research Center "Statistical Modelling of Nonlinear Dynamic Processes" (SFB 823), supported by the Deutsche Forschungsgemeinschaft (DFG), is organizing an international workshop on "New Developments in Econometrics and Time Series", to be held in Rome on September 10th/11th, 2012. The aim is to bring together internationally renowned experts in these areas with the researchers of SFB 823 in order to review recent developments and initiate scientific exchange. The Workshop is in part a continuation of the successful series of "Brussels-Waseda Seminars on Time Series and Financial Statistics".

Location: Einaudi Institute for Economics and Finance (EIEF), Rome <http://www.eief.it/>



Invited Speakers: Manfred Deistler (Vienna University of Technology), Rustam Ibragimov (Department of Economics, Harvard University), Soren Johansen (Department of Economics, University of Copenhagen), Roger Koenker (Department of Economics, University of Illinois), Ta-Hsin Li (Thomas J. Watson Research Center, Yorktown, USA), Helmut Lutkepohl (European University Institute, Florence), Markus Reiß (Institut für Mathematik, Humboldt-Universität zu Berlin), Masanobu Taniguchi (Department of Mathematical Science, Waseda University), Dag Tjoestheim (University of Bergen), Stanislav Volgushev (Department of Mathematics, Ruhr-Universität Bochum), Bas Werker (Department of Econometrics and Operations Research, Tilburg University), Michael Wolf (Department of Economics, University of Zurich), Paolo Zaffaroni (Imperial College, London).

More details and registration forms at <http://www.statistik.tu-dortmund.de/1740.html>

Scientific Board: Holger Dette (Ruhr-Universität Bochum), Ursula Gather (TU Dortmund University), Marc Hallin (ECARES, Université libre de Bruxelles), Marco Lippi (EIEF, Università di Roma La Sapienza)

Local Organization: Marco Lippi and Susana Palomar (EIEF, Università di Roma La Sapienza)

Marc Hallin

New Executive Members in The Bernoulli Society

New Managing Editor for EJP/ECP: Djalil Chafai



Djalil Chafai has been appointed by IMS and the Bernoulli Society as managing editor for the Electronic Journal of Probability (EJP) and Electronic Communications in Probability (ECP).

He is Associate Professor of Mathematics in Université Paris-Est Marne-la-Vallée, France. His main domains of expertise are Analysis, Probability Theory and Statistics. He received his Doctorate in 2002 from Université de Toulouse. He worked for various institutions including Météo-France, University of Oxford, and INRA. He is Associate Editor and Managing Editor for the Electronic Journal of Probability and the Electronic Communications in Probability. He is also co-Editor-in-Chief of ESAIM Proceedings. His homepage is <http://djalil.chafai.net/>

Calendar of Events

This calendar lists all meetings which have been announced in this and previous issues of Bernoulli News together with forthcoming meetings organized under the auspices of the Bernoulli society or one of its

June 2012

- June, 10th – 14th, 2012, *24th Nordic Conference in Mathematical Statistics (Nordstat 2012)*, Umeå, Sweden, www.nordstat2012.se
- June, 15th – 19th, 2012, *First Conference of the International Society for NonParametric Statistics (ISNPS)*, Chalkidiki, Greece, <http://www.isnpstat.org/web/index.php>
- ☉ June, 19th – 22nd, 2012, *7th World Congress of the Bachelier Finance Society*, Sydney, Australia, <http://www.bfs2012.com/>
- ☉ June, 20th – July 6th, 2012, *Feza Gursev International Summer School in Mathematical Physics III: Probabilistic Aspects of Contemporary Physics*, Istanbul, Turkey, <http://www.fezagursevsummerschool.com>
- June, 25th – 29th, 2012, *ISBA*, Kyoto, Japan, <http://www2.e.u-tokyo.ac.jp/~isba2012/>

July 2012

- July, 1st – 4th, 2012, *Second IMS Asia Pacific Rim Meeting*, Tsukuba, Japan, <http://ims-aprm2012.org/index.html>
- ☉ July, 6th – 8th, 2012, *Pre-World Congress of Young Researches in Probability and Statistics*, Istanbul, Turkey, <http://pwc2012.ku.edu.tr/>
- ☉ July, 9th–14th, 2012, *8th World Congress in Probability and Statistics*, Istanbul, Turkey, <http://www.worldcong2012.org/>
- ☉ July, 16th – 20th, 2012, *Random Network & Environments Post-Congress Workshop*, Istanbul, Turkey, <http://www.math.boun.edu.tr/instructors/yilmaz/RNE.html>
- July, 16th – 18th, 2012, *Recent Developments in Statistical Multiscale Methods*, University of Göttingen, Germany, <http://www.stochastik.math.uni-goettingen.de/for916/SMM2012>

Regional Committees (marked by ☉). A more comprehensive calendar of events is available on the ISI Website <http://isi.cbs.nl/calendar.html>

- July, 23rd– 27th, 2012, *Fifth Probability at Warwick Young Researchers Workshop*, Warwick, UK, <http://www2.warwick.ac.uk/fac/sci/statistics/research/paw/paw2012>

August 2012

- August, 6th – 11th, 2012, *Sixteenth Brazilian School of Probability*, Recife, Brazil, www.de.ufpe.br/~xviebp/

September 2012

- September, 9th – 22th, 2012, *International Summer School on Advanced Stochastic Methods to Model Risk*, Ulm University, Germany, <http://www.uni-ulm.de/mawi/summer-academy-2012/>
- September, 10th – 11th, 2012, *Workshop on New Developments in Econometrics and Time Series*, Rome, Italy, <http://www.statistik.tu-dortmund.de/1740.html>

July 2013

- ☉ July, 20th–25th, 2013, *European Meeting of Statisticians*, Budapest, Hungary, <http://www.math.elte.hu/probability/markus/EMS2013.html>
- ☉ July, 29th – August 2nd, 2013, *36th Conference on Stochastic Processes and their Applications*, Boulder, Colorado, USA.

August 2013

- ☉ August, 25th – 30th, *The 59th World Statistics Congress of the International Statistical Institute*, Hong Kong, China, <http://www.isi2013.hk/>

July 2014

- July, 28th – August 1st, *The 37th Conference on Stochastic Processes and Applications (SPA)*, Buenos Aires, Argentina