President's Message

Vincenzo Esposito Vinzi

Dear members of the ISBIS community,

I hope the first quarter of 2015 has been exciting and productive for all of you.

During the past few months, the members of the ISBIS Executive Committee have been engaged in planning and supporting the organization of a few forthcoming conferences that will make summer 2015 rich with interesting ISBIS events.

As you know already, the **ISI World Statistics Congress (WSC)** will take place in **Rio de Janeiro, Brazil** on **26-31 July 2015**. Let me remind you that ISBIS participation in the ISI WSC 2015 scientific programme is significant and consists of 14 invited paper sessions, including ISBIS-specific sessions, other sessions in collaboration with sister Associations within ISI, the *ASMBI* invited session and the launching of the very prestigious "William S. Gosset ISBIS Lecture" delivered by **William (Bill) Meeker** - Iowa State University on: "Reliability in the 21st Century".

Related to ISI WSC 2015, I am very happy to confirm the organization of an **ISBIS satellite meeting in Campinas (São Paulo) on Quality Control and Improvement**. It includes a short course on Multivariate Process Control offered by **Emmanuel Yashchin** from IBM T.J. Watson Research Center, NY, who is a leading expert in this area. This meeting will take place on **22-24 July 2015 at the Institute of Mathematics, Statistics and Scientific Computation (IMECC) of the University of Campinas** and will be run *in memoriam* of Emanuel Pimentel Barbosa (1951-2014).

The aim of this Satellite Meeting is to bring together people from many different backgrounds (statisticians, engineers, and others) and places (from within Brazil and abroad), who are involved/interested in statistical methods and their applications in business and industry, with a focus on quality control and improvement, reliability, time series, pattern recognition, design and analysis of experiments, big data, etc. **Abstracts can be submitted till 30 April 2015**. For more information, please browse the conference website at **2015.isbis.galoa.com.br**

The chief local organizer in Campinas is **Verónica González-López**. Here, I want to thank Verónica for all her dynamism and hard work which have been decisive to put the Satellite Conference up. ISBIS is grateful to her as well as to her team for their endeavor and professionalism. I am sure this meeting in Campinas will be a great success both scientifically and socially. Therefore, I expect a massive participation of the ISBIS community!

This issue provides further information on the ISBIS Satellite Meeting in Campinas, as well as most recent news on the next ISBIS biennial international symposium **(ISBIS 2016)** that will take place in **Barcelona**, **Spain** on **3-6 July 2016**, together with reports from the various current and forthcoming activities and conferences being run or sponsored by ISBIS.

Campinas and Rio are the places to be for ISBIS members in summer 2015!

Vincenzo Esposito Vinzi, ISBIS President

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The *ASMBI* Report

ASMBI starts the year with its first issue, free to all the readers (but the next ones are free only for ISBIS members!), on *Actual Impact and Future Perspectives on Stochastic Modelling in Business and Industry*. I would like to thank the Guest Editors **Ron Kenett** and **Galit Shmueli** who prepared a superb issue. The papers are:


Fabrizio Ruggeri

- *Opportunities to Empower Statisticians in Emerging Areas,* by **Christine M. Anderson-Cook** (discussion by **Ronald D. Snee**)

- *Stochastic Modelling and Analysis of Degradation for Highly Reliable Products,* by **Zhi-Sheng Ye** and **Min Xie** (discussion by **Suk Joo Bae** and **Paul H. Kvam**)

- *Multi-armed Bandit Experiments in the Online Service Economy,* by **Steven L. Scott** (discussion by **Deepak Agarwal**)

- *Alternatives to Resolution III Regular Fractional Factorial Designs for 9–14 Factors in 16 Runs,* by **Bradley Jones, Shilpa Madhavan Shinde** and **Douglas C. Montgomery** (discussion by **Dizza Bursztyn** and **David Steinberg**)

- *Parallel Construction of Decision Trees with Consistently Non-increasing Expected Number of Tests,* by **Irad Ben-Gal** and **Chavazelet Trister** (discussion by **Servane Gey** and **Jean-Michel Poggi**)

- *(sfi)^2 Statistics for Innovation – The Experience of the Oslo Centre in Industrial Statistics,* by **Arnoldo Frigessi, Lars Holden** and **André Teigland** (discussion by **David Banks**)

The second issue will contain papers from **ISBIS 2012**, including the one based on the *ASMBI* Discussion Paper session in **Bangkok** on *Statistical Learning Methods for Information Security: Fundamentals and Case Studies* by **H.-K. Pao, Y.-J. Lee** and **C.-Y. Huang**, with discussions by **Suresh Chari** and **Ravi Ravishanker**. There will be another discussion paper on *Efficient Prediction Designs for Random Fields* by **Werner G. Müller, Luc Pronzato, Joao Rendas** and **Helmut Waldl**, with discussions by **Dale L. Zimmerman** and **William Notz**.

The third issue will be a special one on the **Mathematical Methods in Reliability 2013 (MMR 2013)** conference held in **Stellenbosch, South Africa**. **Maxim Finkelstein** is the Guest editor of the issue, which will contain nine papers. The goal is to print it just before the next **MMR 2015** in June in **China**. The following three issues will contain regular submissions: we keep getting many papers from very different parts of the world (an excellent sign) and the accepted ones are just a very small part since they passed a very serious scrutiny by the members of our Editorial Board (who deserve a big thanks!).
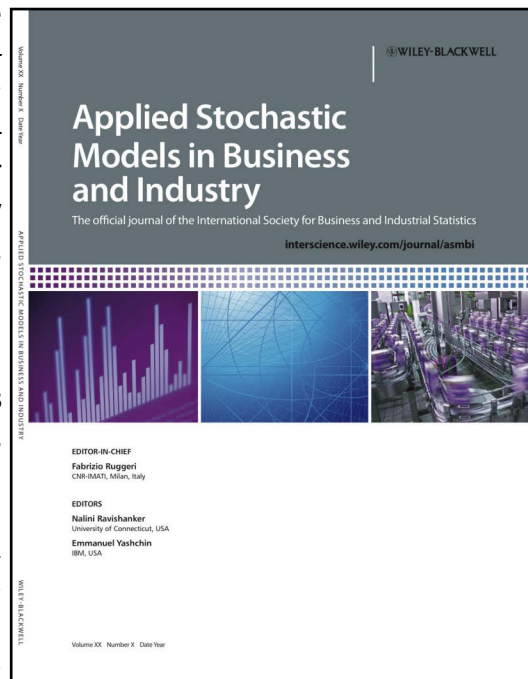
Finally **Hongxia Yang** and **Antonio Pievatolo**, both *ASMBI* Associate Editors, are preparing for next January a special issue on *Bayesian Methods in Business and Industry*.

And do not forget to meet the *ASMBI* Editors (**Nalini Ravishanker, Emmanuel Yashchin** and myself) at **ISI 2015** in **Rio** and to attend the *ASMBI* Discussion Paper session with a talk by **Hedibert Lopes** on *Sparse Bayesian Latent Factor Stochastic Volatility Models for High-Dimensional Financial Time Series* (co-authored with **Gregor Kastner** and **Sylvia Frühwirth-Schnatter**).

ASMBI will publish, as done twice in the past (see e.g. the last issue of 2014), papers presented at the **Quality and Productivity Research Conference**, this year to be held at **North Carolina State University in Raleigh, NC, USA** on **June 10-12**. The conference website is http://www.qprc2015.com/home.html and the call for papers can be found at http://www.qprc2015.com/call-for-papers.html.

As usual, **Emmanuel Yashchin** (*ASMBI* Editor) will be in charge of the special issue.

Fabrizio Ruggeri, *ASMBI* **Editor-in-Chief (fabrizio@mi.imati.cnr.it)**

ISBIS 2015 - With Focus on Quality Control and Improvement

University of Campinas (Unicamp)

Campinas, São Paulo, Brazil

July 22-24, 2015

http://2015.isi-isbis.galoa.com.br/

University of Campinas

A satellite meeting of the ISI's 60th World Statistics Congress (to take place in Riocentro, Rio de Janeiro, Brazil from 26 to 31 of July 2015), **ISBIS 2015** will be held in the installations of the **Institute of Mathematics, Statistics and Computer Science** (best known as **IMECC** in Brazil) at **Unicamp**. The members of the **Scientific Program Committee** are: **Verónica González-López**, (Co-Chair, University of Campinas), **Nalini Ravishanker** (Co-Chair, University of Connecticut), **David Banks** (Duke University), **Francisco Louzada** (University of São Paulo), **Helio Migon** (Federal University of Rio de Janeiro), **Kwok-Leung Tsui** (City University of Hong Kong), **Paulo Canas Rodrigues** (Federal University of Bahia), and **Vincenzo Esposito Vinzi** (ESSEC Business School). The **Local Organising Committee** has as members: **Verónica González-López** (Co-chair, University of Campinas), **Laura Rifo**, (Co-Chair, University of Campinas), **Francisco Louzada** (University of São Paulo), **Jesús García** (University of Campinas), **Márcio Luís Lanfredi Viola** (Federal University of São Carlos), and **Rosângela Ballini** (University of Campinas). The meeting honors the memory of Professor **Emanuel Pimentel Barbosa** (1951-2014), whose enthusiasm for and dedication to the teaching and research in industrial statistics were an inspiring example for our profession.

Verónica González-López

Nalini Ravishanker

Laura Rifo

The meeting will feature a short-course, plenary talks, and invited and contributed sessions. Although the focus is on quality control and improvement, contributed talks in other areas, including reliability, time series, pattern recognition, design and analysis of experiments, big data, etc., will be enthusiastically accepted. The Program Committee will group the contributed talks in themes for the purpose of presentation. Check the **Call for Presentations** section of the conference website for details on how to submit proposals for Invited Sessions and Abstracts for Contributed Talks.

The conference takes off on **Wednesday July 22ⁿᵈ** with a 1-day short-course given by renowned statistician Dr. **Emmanuel Yashchin** from IBM T.J. Watson Research Center, USA on "Advanced Methods in Statistical Process Control" (see page 7 for more details). The talks will be held on **Thursday July 23ʳᵈ** and **Friday July 24ᵗʰ**. There will be a reception on **Wednesday July 22ⁿᵈ** and a banquet on **Thursday July 23ʳᵈ**, with featured speaker **David Banks** from Duke University, USA and President-elect of ISBIS.

Emmanuel Yashchin

Carlos de Bragança Pereira

David Banks

Each day of talks will feature a plenary speaker. These special addresses will be delivered by **Carlos Alberto de Bragança Pereira** from University of São Paulo, Brazil, and **Emmanuel Yashchin** from IBM T.J. Watson Research Center, USA. Talk titles will be announced soon on the conference webpage.

Detailed information about the meeting is available on the conference website at *http://2015.isi-isbis.galoa. com.br/*. This includes information on sessions and organizers as they are arranged, submission of session and talk proposals, registration process and fees, travel and accommodation information, and much more. Please check the site regularly since the information will be updated frequently. The following are important deadlines:

Online Registration	**Until July 8**
Submission of Abstracts	**Until April 30**
Early Registration	**Until May 31**

Campinas is located 90 km Northwest of São Paulo City, and 400 km West of Rio de Janeiro where the ISI's 60ᵗʰ World Statistics Congress will be held. The flight from Rio de Janeiro to Campinas is 1 hour long. July's highest average temperature is 22° C and the lowest 12° C. July is the driest of the winter months, averaging 2 cm of rain.

Campinas Cathedral

The city has many landmark buildings and places of interest to visitors. Among these are: the **Campinas Cathedral** (which was built in the 19th century; its interior is entirely made of jacaranda wood sculptures and works); **Central Market** (with typical stall stands with fresh products of the region); **Centro de Convivência** (a cultural complex of theater, an open arena for concerts and public shows,

and a plaza where Campinas Symphony Orchestra plays open air to the public); **Castelo (Castle) Water Tower** (which provides a commanding view over the downtown); **Lagoa do Taquaral Park** (Taquaral Lake Park); and last but not least, the **University of Campinas** (ranked one of the top two universities in Brazil). Unicamp is about 13 km away from downtown Campinas. The districts of **Joaquim Egidio** and **Sousas** (located about 15 km away from Campinas) are highly recommended for their fine gastronomy, active nightlife and pleasant walking areas. Those districts are in a green region of 222 km², declared an environmentally protected area.

Please visit the conference website for details at http://2015.isi-isbis.galoa.com.br/ or contact **Verónica González-López** at veronica.g.l@gmail.com should you have any questions.

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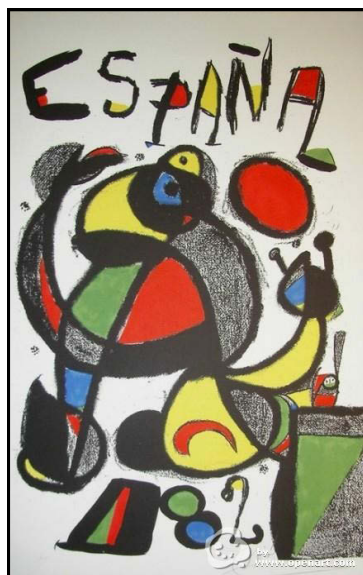
ISBIS 2016

Universitat Politècnica de Catalunya

Barcelona, Spain

3-6 July 2016

We are pleased and honored to announce that the **2016** meeting of the **International Society for Business and Industrial Statistics (ISBIS 2016)** will be held from **July 3 to 6** in **Barcelona, Spain**. The conference will be hosted by the **Department of Statistics and Operations Research** of the **Universitat Politècnica de Catalunya.**

Following ISBIS' mandate of promoting business and industrial statistics worldwide, ISBIS 2016's main aim is to provide an overview of the most recent developments in the methodological, computational and applications areas of statistical models in business and industry. Recognized experts in the field from around the world will converge in Barcelona to present their work in plenary addresses, and invited and contributed talks. Registration and a get-together reception are planned for the evening of **Sunday, July 3**.

Painting by Miró

Dr. **Maria Pilar Muñoz**, who is a Professor in the Department of Statistics and Operations Research at the Universitat Politècnica de Catalunya and current ISBIS Council Member, has been appointed Local Chair for the conference. As the conference organization progresses, we will send out e-mail announcements, post conference information in the ISBIS webpage, as well as publish reports in *ISBIS News*.

International Society for Business and Industrial Statistics (ISBIS) Meeting

22 July, 2015-IMECC-Unicamp

ADVANCED METHODS IN STATISTICAL PROCESS CONTROL

A Short-Course by **Emmanuel Yashchin, IBM Research, USA.**

In Business and Industrial Statistics Meeting
With Focus on Quality Control and Improvement
Emanuel Pimentel Barbosa (1951-2014) *In Memoriam*

10:00 – 12:00 1st Session
14:00 – 16:00 2nd Session
16:30 – 18:30 3rd Session

Emmanuel Yashchin has a M.Sc. in Operations Research and D.Sc. in Statistics from the Technion – Israel Institute of Technology. In 1982 he was a Visiting Assistant Professor at the Iowa State University. Since 1983, he is a Research Staff Member at the IBM T. J. Watson Research Center, Yorktown Heights, New York. From 1996 to 2002 he served as the Manager of the Statistics Group at IBM Research. He is a co-editor of the journal Applied Stochastic Models in Business and Industry, Elected Member of the International Statistical Institute, Fellow of the American Statistical Association and Senior Member of the American Society for Quality.

For more information write to veronica@ime.unicamp.br

Barcelona is a vibrant Spanish city whose history extends over 4000 years. The real birth of the city took place in Roman times; over time it became one of the main ports of the Western Mediterranean. Events such as the **Olympic Games** in 1992 have positioned Barcelona as a city of world recognition for its culture, tourism and prestigious international meetings.

At one time or another, many of the renowned Spanish masters of the arts and architecture have made home in Barcelona, including **Gaudí**, **Salvador Dalí**, **Picasso**, **Joan Miró**, **Antoni Tapies**, … and a long list. Their creative testament can be seen in stunning buildings around the city and a large number of museums holding master pieces unseen anywhere else.

Should you have any questions, please contact **Maria Pilar Muñoz** at pilar.munyoz@upc.edu.

For all these reasons, all we can say is: **Welcome to Barcelona!**

Batlló House, the charm of the modernist bourgeoisie (Gaudí, 1904-1906)

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Report of ISBIS Co-sponsored Workshops in India in January 2015

Nalini Ravishanker

A capacity building workshop, titled *International Workshop on Reliability and Time Series Methodology Relevant to Business and Industry,* was successfully held at the **Cochin University of Science and Technology (CUSAT)** in **Cochin, India** during **5-7 January 2015**. The workshop was co-sponsored by **ISBIS** and the **International Indian Statistical Association (IISA)**, with support from the **University Grants Commission (UGC), India**. The advisory committee consisted of **Bovas Abraham** (U. Waterloo), **N. Balakrishna** (CUSAT), **N. Unnikrishnan Nair** (CUSAT), **Nalini Ravishanker** (U. Connecticut) and **P. G. Sankaran** (CUSAT). We are very grateful for the excellent organization provided by the Local Organizing Committee consisting of **V. K. Ramachandran Nair, N. Balakrishna, K. C. James, Asha Gopalakrishnan, P. G. Sankaran** and **S. M. Sunoj** (Chair). The speakers included **Asokan Mulayath Variath, Bovas Abraham, N. Balakrishna, N. Unnikrishnan Nair, Nalini Ravishanker, Nandini Kannan, P. G. Sankaran, Sujit Ghosh, S. V. Sabnis,** and **M. Thenmozhi**. For more details, please see http://www.cusat.ac.in/view_events.php?id=964.

An *International Workshop on Statistical Methods for Business and Industry Applications* was held on **8-9 January 2015**, at the **Indian Statistical Institute (ISI) Chennai Center in Chennai**, India. This workshop was co-sponsored by **ISBIS**, the **International Indian Statistical Association (IISA)**, and the **Indian Statistical Institute (ISI)**, and was supported by the **University of Madras** and the **Chennai Mathematical Institute (CMI)**. For details, please see http://www. isichennai.res.in/pastconf.php and http://www.isichennai.res.in/conf_broc/iwsmb1.pdf. We thank the Organizing Committee, which included **Nandini Kannan** (NSF), **Rajeeva Karandikar** (CMI), **Nalini Ravishanker** (U. Con-

Cochin University of Science and Technology (CUSAT)

necticut), **Rituparna Sen** (ISI, Chennai Center), and **M. R. Srinivasan** (U. Madras). The speakers were **Smarajit Bose** (ISI, Kolkata), **Vishwanath (Mahesh) Iyer** (Novartis, Hyderabad), **Nandini Kannan** (NSF), **Nalini Ravishanker** (U. Connecticut) and **Bhaskar Sarma** (ITC, Bangalore), who described statistical methods in the financial, marketing, and manufacturing areas. There were 45 participants from different parts of India, whose feedback revealed how much they enjoyed the workshop.

ISBIS is very grateful to advisory committees, the local organizing committees, and the speakers for providing a valuable experience for the participants through both workshops.

Upcoming ISBIS Supported Workshop in July 2015 in Chennai, India

A workshop titled *Research Workshop and Conference on Statistical Methods in Finance* will be held **13-17 July 2015**, in **Chennai, India**. **ISBIS** is supporting this workshop, which is co-organized by the **Indian Statistical Institute (ISI)**, **Chennai Mathematical Institute (CMI)** and the **Institute of Mathematical Sciences (IMSC)**. PhD students, post-doctoral researchers and faculty in mathematics, statistics, business, or economics may apply, and may contact **Dr. Rituparna Sen** for details (rsen@isichennai.res.in).

Nalini Ravishanker, ISBIS Vice-President, Scientific Program

22nd Spring Research Conference (SRC 2015)

Hyatt Regency

Cincinnati, Ohio, USA

20-22 May 2015

The **22nd ASA/IMS Spring Research Conference (SRC 2015)** on **Statistics in Industry and Technology** will be hosted by **Procter & Gamble** and held in **Cincinnati, Ohio**, at the **Hyatt Regency, May 20-22,** 2015. The theme of this year's conference is Bridging Statistics Research and Application to Foster Innovation, with topics including the design and analysis of experiments, computer experiments, big data, quality improvement and control, measurement systems, consumer research, statistical computing and applications to consumer products, the Air Force, and industry and government. Keynote Speakers include **Vijay Nair** (University of Michigan) and **Sallie Keller** (Virginia Tech). The SRC promotes cross-disciplinary research in statistical methods and collaboration between researchers and practitioners.

We encourage you to submit a contributed talk to the conference. To present a contributed talk, please submit a title and abstract via the SRC 2015 website. The deadline for submission is **April 1, 2015**. A number of $600-scholarships will be available to selected student and early career presenters. For registration and all other information, please visit the website at http://www.cvent.com/d/44qpkn or contact the Contributed Program Chair, **Byran Smucker**, at smuckerb@miamioh.edu.

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2015 ENBIS SPRING MEETING

Barcelona, Spain

4-5 June 2015

The **2015 ENBIS Spring Meeting** with the title "Predictive Analytics with Big and Complex Data" will take place on **June 4th and 5th, 2015**, in **Barcelona (Spain)**. It will be organized by **UPC-BarcelonaTech** and **Societat Catalana d'Estadística**.

Data storage and processing have grown tremendously over the last decades. The current big data environment involves high-volume amounts of data coming from different unstructured sources at high frequencies. These characteristics pose challenges to classical statistical data analysis methods. In fact, many

analytical techniques to deal with big and complex data have been developed by researchers coming from computer science and information technologies areas of knowledge.

Statistics must play an important role in the process of turning data into useful information for management. There are many issues (such as dealing with spurious associations, time-series dependencies, difficulties to develop explicatory models and not just descriptive analysis) that can and should be dealt with by statisticians

The purpose of the 2015 ENBIS Spring Meeting is therefore to enlighten the role of statistics in predictive analytics with big and complex data and elaborate on how research from different fields can synergistically contribute to better exploitation of data for analytical purposes. The preliminary programme of the meeting is as follows:

Thursday, June 4th in the morning: 2 Keynote speakers followed by an open discussion

Thursday, June 4th in the afternoon: Oral presentations

Friday, June 5th in the morning: 2 Keynote speakers followed by an open discussion

Friday, June 5th in the afternoon: Workshop on predictive analytics with JMP

You are cordially invited to prepare and submit an abstract (between 200-400 words) **before March 16th, 2015**. Both registrations to the meeting and abstract submission are handled through the ENBIS Web (www.enbis.org – section on *Upcoming Events*).

Regular updates will also be available at www.upcq.net/springmeeting. For further details please contact the 2015 ENBIS Spring Meeting organizers **Xavier Tort-Martorell** (Xavier.tort@upc.edu) and **Lluis Marco-Almagro** (lluis.marco@upc.edu).
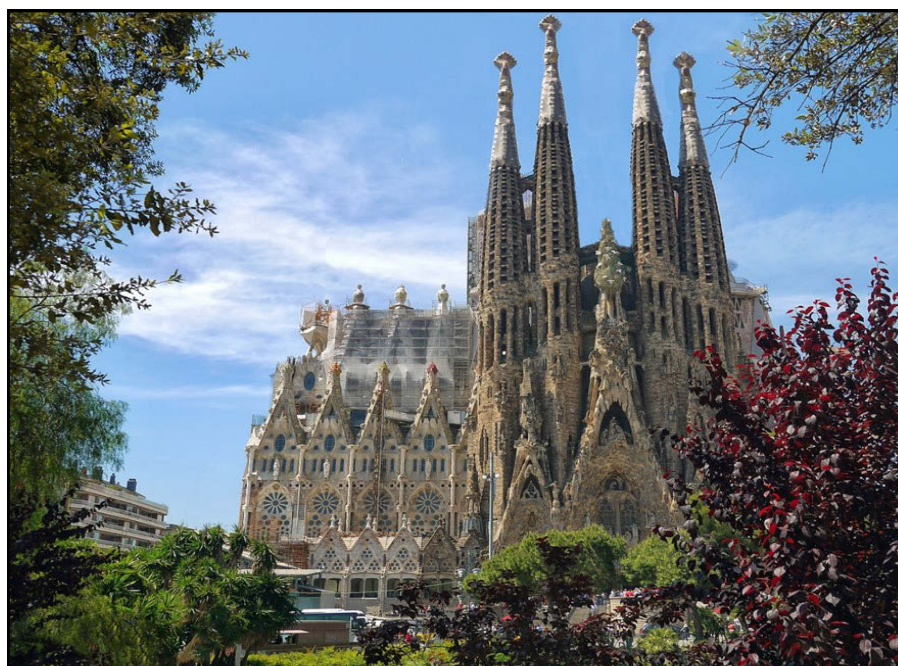
The Church of the Holy Family (Gaudí)

ENBIS' 15TH ANNUAL CONFERENCE (ENBIS-15)

Prague, Czech Republic

7-9 September 2015

The **15th Annual Conference of ENBIS (ENBIS-15)** will take place in the historic city of **Prague (Czech Republic)**. The conference sessions are scheduled for **September 7th to 9th**, with the pre-conference administrative meetings, pre-conference courses and workshops taking place on **September 6th**, and post-conference administrative meetings, post-conference courses and workshops taking place on **September 9th and 10th**.

ENBIS invites you to contribute to the success of the conference by giving an oral presentation in one of the themed conference sessions. Contributions can consist of review papers, state of the art advances in scientific research, overview and introductory papers, presentation of an area of expertise to the uninitiated or communication of best practices and practitioner experiences. People from industry and business, in particular, are invited to present their challenges and current solutions.

ENBIS-15 session topics include but are not limited to:

- Design of experiments.

- Measurement uncertainty.

- Process modeling and control.

- Reliability and safety.

- Operational risk management.

- Stochastic modeling.

- Data mining and warehousing.

- Statistical computing.

- Statistics in the pharmaceutical industry.

- Statistics in practice.

- Quality improvement and Six Sigma.

- Analytics.

Participants are invited to submit an abstract (maximum 250 words) **before April 30th, 2015.** To submit your abstract go to www.enbis.org, log in and look for the ENBIS-15 section under *Upcoming Events*.

Notifications of the acceptance of submissions will be sent out **no later than May 15, 2015**. Early bird registration will be available up to **June 30th, 2015**.

Should you need any conference-related information which cannot be located on the website, please feel free to contact Co-Chairs of the ENBIS-15 Programme Committee: **Bart De Ketelaere** of KU Leuven, Belgium (bart.deketelaere@biw.kuleuven.be) and **Antonio Pievatolo** of CNR-IMATI, Italy (antonio.pievatolo@mi.imati.cnr.it).

In Tribute to Corrado Gini
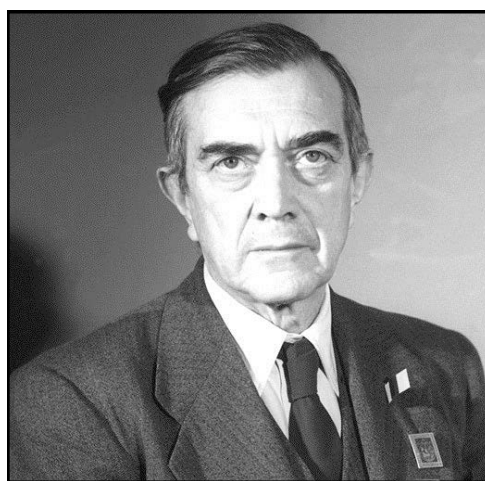
Events are planned in Italy to commemorate the 50th anniversary of the death of **Corrado Gini**, one of the most prominent Italian statisticians.

The **Italian Statistical Society** is planning a conference in **Treviso**, **September 9-11, 2015**, on "Statistics and Demography: Gini's Legacy", to be followed by the first statistical festival in the next two days. Details are available at

http://meetings.sis-statistica.org/index.php/ginilegacy/SIS2015

Earlier, on **September 7-8**, two events are organised in **Padova** (see

http://convegnogini.stat.unipd.it/en/index.php). ISBIS members may be interested in taking part in the September 8 activities for which contributed papers are sought in many fields, including choice experiments and preference elicitation, measurement scales vs. conjoint measurement, ranking and rating for quality improvement, ranking and rating for marketing, and techniques for data quality evaluation.

A half-day workshop on "Compositional data (CoDa) methods for the analysis of customer surveys", is being organized by Prof. **Ron Kenett** (KPA, Israel) for the afternoon of **September 8**.

Fabrizio Ruggeri (fabrizio@mi.imati.cnr.it)

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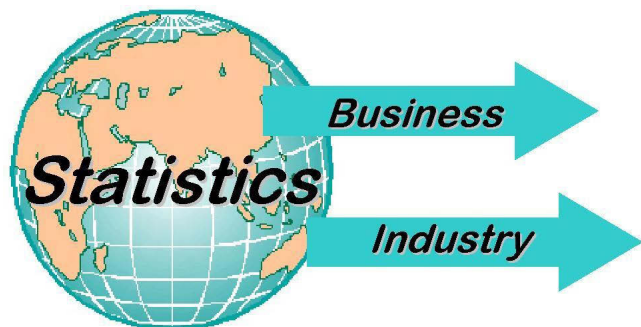
ISBIS 2015: Campinas, Brazil

ISBIS 2016: Barcelona, Spain

ISBIS TURNS 10 YEARS IN APRIL

By Bovas Abraham

On **April 11, 2005,** the **International Society for Business and Industrial Statistics (ISBIS)** was born; it was approved as an Association/Section under the umbrella of the International Statistical Institute (ISI) at the general assembly held during the Biennial Session of the ISI in Sydney Australia. As the founding president, I was part of various discussions, meetings and other endeavors which took place in the early stages. A summary of some of those events and some recollections are given below.

In the beginning:

Before becoming a society, ISBIS went through some transitions and several people worked behind the scenes to make it happen. During the **1989 ISI Biennial Session in Paris** an initiative was taken to explore interest in starting a group to stimulate and foster interactions among people interested in industrial statistics. Soon thereafter, a working group on Industrial Statistics was established, chaired by **Ram Gnanadesikan** (USA). Subsequently, in **1992**, the ISI approved the formation of a standing committee on Statistics in Industry. The first chair was **Ram Gnanadesikan (1992-1995)**, followed by **Vijay Nair** (USA/Malaysia, 1995-99), **Nick Fisher** (Australia, 1999-2003), and **Bovas Abraham** (Canada/India, 2003-2005). The scope of the committee was broadened to include Business Statistics and the name was changed in 1999 to Statistics in Business and Industry (SBI). The committee was very successful in organizing conferences and workshops in many countries: **Tel Aviv, Israel (1991, Vijay Nair and David Steinberg)**, **Cairo, Egypt (1991, Bovas Abraham-Workshop), Bologna, Italy (1993, Nick Fisher), Tokyo, Japan (1994, C. Hirotsu), Seoul, South Korea (1995, S. Park), Athens, Greece (1997, C.Kistos and V. Nair), Stockhom, Sweden (1999, B. Bergman and V. Nair), Buenos Aires, Argentina (2001, B. Abraham and V. Nair - Workshop), Yokohama, Japan (2001, C. Hirotsu) and Barcelona, Spain (2003, D. Steinberg)**. The committee also co-sponsored many conferences around the globe: **Sydney, Australia, Kochi, India, Bordeaux, France, Capri, Italy, Panama City, Panama, Trondheim, Norway** and so on.

It was clear that the committee had established itself as a significant group dealing with Business and Industrial Statistics, had many contacts around the globe, and enhanced its stature in the world of Business and Industrial Statistics. At that time, there was no international organization that provided statisticians and practitioners interested in the applications of statistics in business and industry the opportunity to be part of an international community of professionals. After I became chair of the SBI committee at the ISI meeting in **Berlin (2003)**, we explored the idea of becoming a Section of ISI. We circulated an email to many people in different countries around the world and about 600 people expressed an interest in such an organization.

Proposal to ISI and the birth of ISBIS:

The SBI committee started on the path to becoming an Association (Society) under the umbrella of the ISI. Thinking of creating an association and getting it done are very different things. One had to think of many details. Many questions were to be answered such as what was the mission, what were the goals and objectives, what was an appropriate name. We developed the Mission, Goals and Objectives for the proposed Association (Society). One of the committee members, **Bill Meeker** (Iowa State University) created a website for the committee and managed it for a while. After deliberations among a core group — **Vijay Nair, Bill Meeker, Nick Fisher, Jeff Wu, David Steinberg** and myself, maybe few others — the committee decided on the

name `**International Society for Business and Industrial Statistics**` (**ISBIS**). During this time an emblem was also adopted (my recollection is that it was created by Nick Fisher based on suggestions and modifications from committee members). We also developed application forms for Regular, Corporate and Student memberships. Around this time **Jacky Galpin** (South Africa) started to manage the website and hosted it from her university in South Africa. I wrote tentative statutes and guidelines for the proposed association with help from **Vijay Nair** and **Jef Teugels** (Belgium). After some modifications from the council it became part of our

Sydney Opera House

main proposal to the ISI which I put together with immense help from Vijay. The proposed Section/Association of ISI will encourage members from developed countries to promote statistics in business and industry at an international level and to develop links with people from developing countries to exchange best current practices and transfer technology.

The SBI committee sent an official proposal (with the new name ISBIS, statutes, fee levels, website information and potential application forms) to the ISI president **Steve Stigler** (USA). As chair of the committee, I exchanged some emails with Steve and the ISI executive to clarify several aspects of the proposal. Subsequently ISBIS was approved as a society on **11th April 2005** at the **55th ISI Biennial Session** (now called the **World Statistics Congress or WSC**) in **Sydney, Australia**.

Immediately after the Sydney ISI Biennial Session, the first official ISBIS conference was held in **Palm Cove** (near Cairns), **Australia 13-16th April 2005** which was organized by **Nick Fisher**. The first ISBIS council meeting was held on **14th April, 2005**.

First Executive:

President: **Bovas Abraham** (Canada/India);

VP - Scientific Secretariat: **William Q. Meeker** (USA);

VP - Finance: **Sung H. Park** (S. Korea);

VP - Membership: **Nicholas Fisher** (Australia);

VP - Publications: **Ronald Does** (Netherlands).

Other members of the First Council:

Rong Chen (China), **Luis Escobar** (Colombia), **Oswaldo Ferriera** (Chile), **Jacky Galpin** (South Africa), **Yves L. Grize** (Switzerland), **Graciela González-Farías**, (Mexico), **Chihiro Hirotsu** (Japan), **Carlo Laura** (Italy), **Vijay Nair** (Malaysia/USA), **David Steinberg** (Israel), **S. T. Tseng** (Taiwan), **Jeff Wu** (USA).
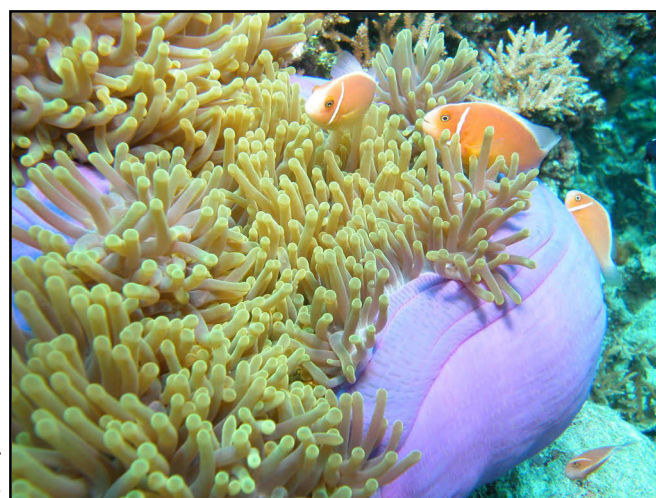
In addition to the conference meetings, many participants had the opportunity to visit the Great Barrier Reef which was about 30 miles off the coast. At the floating sea platform, I enjoyed a lesson in snorkeling and Bill Meeker went for scuba diving. The reefs were breathtaking.

Palm Cove Conference, Dinner at Novotel, Palm Cove: Professors C. Hirotsu (left)
and S. Park (right) who were in the first council.

ISBIS started operating under the statutes approved by the ISI general assembly. For future conferences, we adopted the concept of a satellite meeting to each WSC and an international conference in the intervening years of the WSC. Another idea that emerged was to organize a conference to stir local interest in regions where Business and Industrial Statistics was not highly valued. The first ISBIS meeting, other than a satellite meeting to WSC, after ISBIS was approved in **Sydney**, was held in **January 2006** in **Lima, Peru**, co organized by **Geoff Vining** and **Bovas Abraham**. We were pleasantly surprised that there were about 55-60 people from industry and more from academia participating in that meeting. Interaction with participants from this region (Peru, Colombia, Venezuela, Brazil etc) gave us an appreciation of the need for applications of Statistics in these areas. This conference created interest in Industrial Statistics in Latin America and led to some later conferences sponsored by ISBIS in **Colombia (Bucaramanga 2006, Cartagena 2008)** and **Venezuela (Valencia 2009).**

The Journal:

Later in **2006, Jef Teugels** approached me to discuss the idea of ISBIS sponsoring an existing Wiley Journal in the area of Stochastic Models in Industry (its exact name at the time escapes me now). I set up a committee with **Vijay Nair** as chair and **Bill Meeker** (USA) as another member of the committee. After several discussions

with Wiley, ISI and **Jef Teugels**, we signed a contract with Wiley in **June 2007** and '*Applied Stochastic Models in Business and Industry' (ASMBI)* became the official journal of ISBIS. Subsequently, after careful consideration of several names and consultations with several people, **Fabrizio Ruggeri** (Italy) was appointed as the Chief Editor.

ISBIS on a regular path:

It was time in 2007 for elections for a new Executive and Council. Following the statutes established earlier, elections were conducted just before the 2007 WSC meeting in **Lisbon, Portugal**. ISBIS organized its satellite meeting to the 2007 WSC in **Azores, Portugal** just before the WSC. **Frank Samaniego** (University of California,-Davis) was the program chair and **Helena Bacelar-Nicolau** (University of Lisbon) and **Osvaldo Silva** (University of Azores) were the local organizers. It was well attended with

Lima Peru-2006 Conference dinner: Co-organizer Geoff Vining is at the back

about 250 participants including many well known statisticians such as **Sir David Cox**, Professors **Stu Hunter**, and **George Tiao**. The local organizers arranged a tour of the big island showing several interesting sights.


Azores, Portugal-2007: Special speakers Sir David Cox, George Tiao, and Stu Hunter. Dennis Lin, Ed Wegman and I are also in the picture.

The conference was a big success and ISBIS was well on its way to be a premier organization. A new executive with **Nick Fisher** as President started in **August 2007** just after the ISBIS satellite meeting in **Azores**. Thus the ISBIS became a regular Section (Association) of the ISI and started its operations smoothly

Thus ISBIS had all the basic structure set up, statutes operating, conference organizing framework set, an official journal established and many other processes lined up. The baby born in 2005 started running forward smoothly. In the conferences organized by ISBIS, in addition to sharing the scientific knowledge, the participants gained an understanding of the local people and the culture. I feel that it was very important for Capacity Building.

Several people including **Vijay Nair, Bill Meeker**, and **Nick Fisher** helped behind the scenes to make all this happen. Many others such as **Jeff Wu**, **Chihiro Hirotsu**, **Sung Park**, **David Steinberg** also pitched in. It was a pleasure working with that international team of professionals and I salute them all for the help.

ABOUT THE AUTHOR: Professor **Bovas Abraham** was the founding President of ISBIS. His efforts, along with those of others at that time, helped to establish the Society's structure, bylaws, committees and the journal in the ISBIS early years. He is Professor Emeritus in the Department of Statistics and Actuarial Science at University of Waterloo. His contributions to statistics have been recognized with many awards, including honorary membership in the Statistical Society of Canada, Fellowship in the American Society for Quality (ASQ), the American Statistical Association and the Royal Statistical Society, and recipient of both the William G. Hunter Award and the Shewhart Medal from the ASQ, among others. He was the Director of the Institute for Improvement in Quality and Productivity at the University of Waterloo for nearly ten years.

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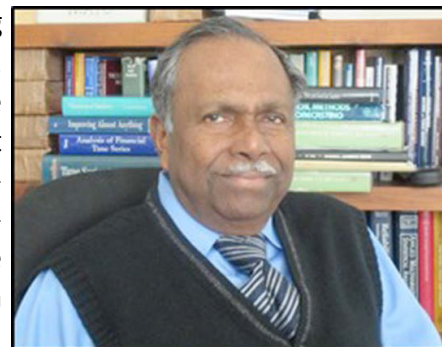
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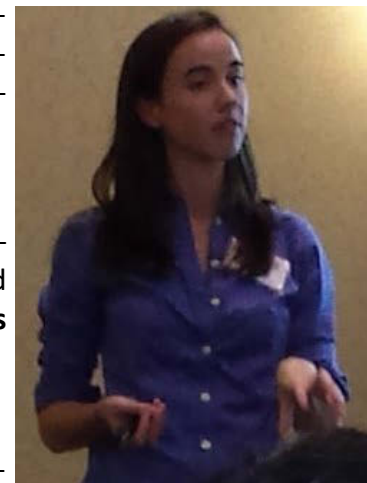### Dr. Genevera Allen (Rice University)

USA

Genevera Allen is the Dobelman Family Junior Chair and an Assistant Professor of Statistics and Electrical and Computer Engineering at Rice University. She is also a member of the Jan and Dan Duncan Neurological Research Institute at Texas Children's Hospital and Baylor College of Medicine where she holds a joint appointment. Originally from North Carolina, Dr. Allen attended the University of North Carolina School of the Arts for high school studying viola performance. In college at Rice University, she made a switch to statistics and graduated with a statistics major in 2006. In graduate school, she studied Statistics under the mentorship of Prof. **Robert Tibshirani** at Stanford University, earning her PhD in 2010.

On the research side, Dr. Allen develops statistical methods to help practitioners make sense of their "Big Data". Her work lies in the areas of modern multivariate analysis, graphical models, statistical machine learning, and the emerging area of data integration or data fusion. While most of her work is motivated by scientific applications in areas such as neuroimaging and high-throughput "omics", her work also has many applications in business and industry. For example, consider mixed data that consists of variables of many different types (e.g. continuous, categorical, counts, etc.). Such types of data are prevalent in many industries including Internet advertising where businesses collect data such as numerical and text reviews, purchasing history, browser history, and interactions via social networks. Putting all of this mixed type of data together in a single statistical model is a major challenge. Dr. Allen's team has worked on this problem using the mathemati-

cal framework of Markov Random Fields; they have developed the first multivariate distribution over mixed variables that can directly parameterize dependencies between different variable types. As such, this is an important contribution with applications in many fields.

Delivering her talk at ISBIS 2014, Durham, NC, USA

For her work, Dr. Allen has been the recipient of many awards and honors including being named to the **2014 Forbes `30 Under 30'** list in Science and Healthcare and representing the American Statistical Association in the `**This is Statistics'** public awareness campaign.

Outside of work, Dr. Allen is an arts patron and involved in many young professionals art and performing arts organizations throughout Houston. She also enjoys traveling, Texas craft beers, and playing viola.

Youth, intelligence, energy and passion are some of Dr. Allen's distinctive qualities. *ISBIS News* got some insights on how her views of statistics are shaped.

Q. *What attracted you to statistics?*

A. I wanted to work in a field where I would never get bored and which would allow me to continually explore new opportunities. With statistics, I can become involved in any discipline or industry that has data (everyone these days!), creating a myriad of exciting possibilities.

Q. *What advice can you give to junior aspiring statisticians?*

A. Get your hands on data!! The most important part of statistics is understanding data. Find cool data sets and explore them, build models, interpret them, and learn how the mathematics of statistics interacts with real data. Make sure your work is always grounded in data.


Q. *What is your favorite statistics quote?*

A. John Tukey – "The best thing about being a statistician is that you get to play in everyone's backyard."

Dr. Allen is an enthusiastic speaker about statistics. For a sample, check her *This is Statistics* video posted at http://www.stat.rice.edu/~gallen/. The video is one of Dr. Allen's contributions to the `This is Statistics' campaign (http://thisisstatistics.org/).

## Business and Industrial Statistics at Duke University, NC, USA
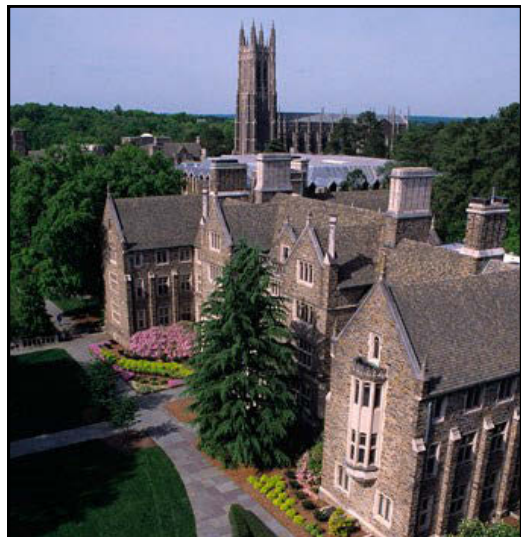
Bayesian statistics is playing an expanding role in the business community, especially at information technology companies. Three recent examples are **Tim Au**, **Daniel Heard**, and **Xi Chen**. Tim and Daniel (my students!) graduated last year, and Xi is currently pursuing her Ph.D. Tim is now at **Google**, Daniel is at **USAA Federal Savings Bank**, and Xi is doing an internship this summer at **LinkedIn**.

Tim Au's thesis was entitled "Topics in Computational Advertising," and addressed three interesting problems: (1) a novel approach to auctions, in which one builds a Bayesian model for the bidding strategy of one's opponent and then maximizes expected utility; (2) cross-domain recommendation systems, in which a company might, for example, use information about a person's taste in literature to recommend music they would like, which depends upon latent factor modeling; and (3) a new approach to text networks, such as the Internet, in which one combines dynamic network modeling with topic modeling. This kind of research was directly applicable to computational advertising problems at Google, which has heavily invested in Bayesian statistics.
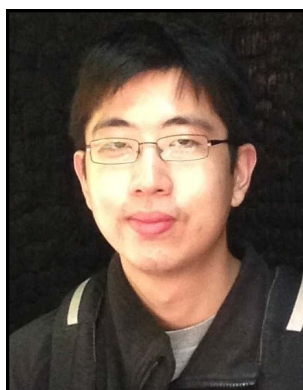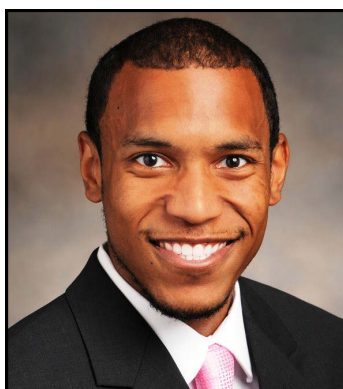
Tim Au	*Daniel Heard*	*Xi Chen*

Daniel Heard's thesis was entitled "Statistical Inference for Agent-Based Models." Daniel explored the use of emulators and Approximate Bayesian Computation to draw valid inferences from agent-based simulations. Such simulations are, of course, models just like a linear model, but there is little theory for how to estimate parameters, assess goodness-of-fit, and set credible intervals on predictions. But this is a very important area, since agent-based models are used in many business applications, from virtual auctions at Google and Yahoo! to logistics to staffing to health-care demand. For example, a bank might use agent-based models to forecast the effect on customer behavior of a change in an interest rate or the closure of a branch bank.

Xi Chen is currently working with me and with scientists at **MaxPoint Interactive**, a computational advertising start-up in the **Research Triangle Park** in **North Carolina**. She is fitting a Bayesian gravity model to traffic flow on the Fox News website, as well as doing an ANOVAesque decomposition of the traffic network, finding network-valued estimates of the average flow, the day-of-the week effect network, and the time-of-day effect network. These questions lead to new models that should help MaxPoint decide when to bid to display a pop-up ad, in order to maximize the probability of click-through.

David Banks, Department of Statistical Science, Duke University, and ISBIS President-Elect

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NEWS AND OTHER ANNOUNCEMENTS

Penalty, Shrinkage and Pretest Strategies — Ahmed

Authored by **S. Ejaz Ahmed** and published by **Springer** in 2014, the main theme of *Penalty, Shrinkage and Pretest Strategies: Variable Selection and Estimation* is to present pretest and shrinkage-type estimators and to compare statistical properties of penalty and non-penalty estimation strategies for some popular linear models. The book is systematically organized into six chapters, thoroughly covering the full model, submodel, pretest, shrinkage and penalty, estimation strategies and their properties for multiple linear regression, partially linear regression and Poisson regression models. Further, one chapter is dedicated to estimation problem when pooling data from several sources. Asymptotic properties of non-penalty estimators are developed. Small sample performance of all listed estimators is assessed by Monte Carlo simulations. A number of illustrative examples from medicine, public health and business are given. The selection of topics and the coverage will be equally useful for the graduate students, researchers and practitioners in this field. This book will serve as an excellent textbook for higher advanced undergraduate and graduate courses involving penalty and non-penalty estimation. This is a unique book that covers all of these topics in one place. S. Ejaz Ahmed is a Fellow of the American Statistical Association and currently serves as Dean of the Faculty of Science at Brock University in Canada. He is a former ISBIS Council member.
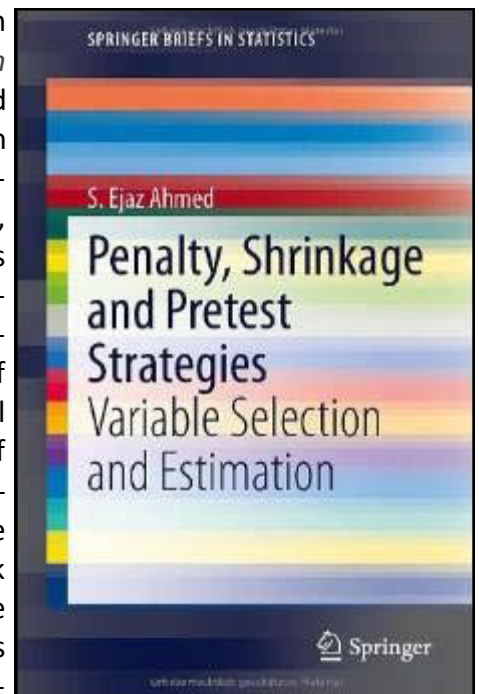
USA

Dennis K.J. Lin, an ex-ISBIS council member (2007-2010) and a University Distinguished Professor at The Pennsylvania State University, has recently received multiple prestigious awards. Last October (2014), he was honored with the **William G. Hunter Award** at the Fall Technical Conference (Richmond, VA). The Hunter Award recognizes that person (or persons) whose actions most closely mirror Bill Hunter's strengths as communicator, consultant, educator (especially for practitioners), innovator, integrator (of statistics with other disciplines) and implementer (who obtained results). Lin is also the recipient of the 2015 **Shewhart Medal** from ASQ— *"for outstanding leadership and innovation in the field of statistical quality improvement; for collaboration within other disciplines, business and industry, and government; and for technical contributions in data mining, experimental design, quality engineering, statistical process control and reliability."* Moreover, he will receive the **2015 Brumbaugh Award** from ASQ for co-authoring the paper, "Dimensional Analysis and Its Applications in Statistics," published in 2014 in the *Journal of Quality Technology*, Vol. **46**, No. 3, pp. 185–98. Both the Shewhart Medal and the Brumbaugh Award will be presented to Dennis during 2015 ASQ World Conference on Quality and Improvement, Nashville, TN, May 3-7, 2015. Congratulation to Dennis Lin!

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Editor's Notes

ISBIS becomes 10 this year! I am very grateful to **Bovas** Abraham for writing the article recounting ISBIS' founding and its early years. Bovas served as our founding President and, joining efforts with a lot of colleagues at that time, helped establish the Society's structure and its several arms, including the creation of our highly regarded journal, *Applied Stochastic Models in Business and Industry*.

This issue provides a lot of information about our ISBIS 2015 conference to take place in Campinas, Brazil in July. I would like to thank **Verónica González-López, Nalini Ravishanker** and **Laura Rifo**, whose join efforts head the program and local organization, for their help in putting together the conference material published in this issue. Thanks are due to **Maria Pilar Munõz** who leads the early preparations for ISBIS 2016 in Barcelona, Spain, for her efforts in putting together the preliminary announcement for the conference.

In this issue we also focus on four young researchers who are about to get, or very recently got, their graduate degrees in Statistics. They are **Genevera Allen**, who graduated from Stanford and is currently at Rice University; and **Tim Au, Daniel Heard** and **Xi Chen**, who are recent or current grad students at Duke University; all from the USA. Thanks to **David Banks** for taking time to put together the Duke article.

As always, I thank **David Steinberg** for his great and expeditious job with the proofing, **Yili Hong** for preparing our monthly entries for the ISI electronic outlet, and **Naveen Naidu Narisetty** who helps with the postings in the website as ISBIS webmaster.

And last but not least, thanks everyone else who contributed to this issue!

Román Viveros-Aguilera, Editor of *ISBIS News*

This newsletter was produced in **Microsoft Publisher 2010**; template: **Vijay Nair**, layout: **Román Viveros-Aguilera.**