IMS Bulletin

April/May 2015

CONTENTS

*Read it online at http://bulletin.imstat.org*

Elect your new Council

We are pleased to introduce the candidates who are standing for election to the IMS Council in 2015. This year there is one candidate for President-Elect, and 10 candidates for five places on Council.

The President-Elect candidate is Jon Wellner. The Council candidates are, in alphabetical order: Rami Atar, Andreas Buja, Gerda Claeskens, Nancy Heckman, Fernando Andrés Quintana, Kavita Ramanan, Philippe Rigollet, Ming Yuan, Chunming Zhang and Ilze Ziedins. You can read their statements starting on page 4, or online at http://www.imstat.org/elections/candidates.htm.

Electronic voting for the 2015 IMS Elections has opened. You can vote online using the personalized link in the email sent by Aurore Delaigle, IMS Executive Secretary, which also contains your member ID. If you would prefer a paper ballot please contact IMS Executive Director, Elyse Gustafson (for contact details see the panel on page 2).

Elections close on June 27, 2015.

If you have any questions, comments or concerns please feel free to contact Elyse Gustafson **e** erg@imstat.org.

Jon Wellner
President-Elect
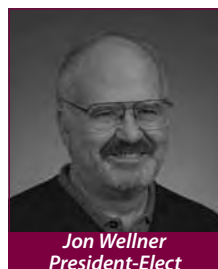
These are the candidates who have been nominated for President-Elect and Council

Please vote for them!

Rami Atar
Council

Andreas Buja
Council

Gerda Claeskens
Council

Nancy Heckman
Council

Fernando Quintana
Council

Kavita Ramanan
Council

Philippe Rigollet
Council

Ming Yuan
Council

Chunming Zhang
Council

Ilze Ziedins
Council

IMS Members' News

Evarist Giné, 1944–2015

We are sorry to report that Evarist Giné, head of the University of Connecticut's department of mathematics, died on March 13. Evarist was a distinguished mathematician who worked on mathematical statistics and probability in infinite dimensions. He was the author of over 100 articles and two books; his third, *Mathematical Foundations of Infinite-Dimensional Statistical Models*, written with Richard Nickl, will appear soon. Among many honors, Evarist was an IMS Fellow and an elected member of the ISI. Last June friends and colleagues organized a three-day conference in honor of his 70th birthday at the University of Cambridge. An obituary will follow.

Evarist Giné

Gopinath Kallianpur, 1925–2015

Professor Gopinath Kallianpur passed away on February 19, 2015. Professor Kallianpur made many significant contributions to the field of probability theory, stochastic processes. filtering and stochastic differential equations.

Gopinath Kallianpur obtained his BA in 1945 and MA in 1946 from University of Madras, and his PhD in 1951 from the University of North Carolina. He was the Director of the Indian Statistical Institute (ISI) in Kolkata from 1976–79, and since then, the Alumni Distinguished Professor at the University of North Carolina. He had earlier held faculty positions at Berkeley, Princeton, ISI, Michigan State University, Indiana University, and University of Minnesota. He served as editor of *Applied Mathematics and Optimization* and *Sankhya,* and as an Associate Editor of *Soochow Journal of Mathematics*. Kallianpur was an IMS Fellow, the Barret Lecturer of University of Tennessee (1993), a Fellow of the Indian Academy of Sciences and the Indian Mathematical Society, and a member of the Indian Statistical Institute. An obituary will follow.

Han Liu receives 2015 Tweedie Award

The Institute of Mathematical Statistics has selected Han Liu as the winner of this year's Tweedie New Researcher Award. Han received his PhD in 2010 from Carnegie Mellon University, and is currently an Assistant Professor in the Department of Operations Research and Financial Engineering at Princeton University.

Han Liu

The IMS Travel Awards Committee selected Han, "for fundamental and outstanding contributions to the theory and methods of nonparametric and semiparametric graphical models, with innovative applications in brain science and genomics."

Speaking about the award, Han said, "I felt honored and humbled when I heard that I was selected for the Tweedie New Researcher Award. As a researcher with a computer science background, I feel very welcomed into the statistics community. I am also very glad to be invited by the Awards Committee to speak at the New Researchers Conference. This is a great opportunity for me to learn from the new researchers and to make new friends."

The IMS Tweedie New Researcher Award will fund Han's travel to present the Tweedie New Researcher Invited Lecture at the 17th IMS New Researchers Conference, at the University of Washington, Seattle, August 6-8, 2015 (right before JSM).

See http://depts.washington.edu/imsnrc17/ for more information about the meeting.

IMS Textbooks and Monographs

These two book series are published by Cambridge University Press on behalf of IMS. The volumes currently available are:

IMS Textbooks

Probability on Graphs. Geoffrey Grimmett

Bayesian Filtering and Smoothing. Simo Särkkä

Stochastic Networks. Frank Kelly and Elena Yudovina

The Surprising Mathematics of Longest Increasing Subsequences. Dan Romik

Noise Sensitivity of Boolean Functions and Percolation. Christophe Garban and Jeffrey Steif

Core statistics. Simon Wood

IMS Monographs

Large-scale Inference. Bradley Efron

Nonparametric Inference on Manifolds. Abhishek Bhattacharya and Rabi Bhattacharya

The Skew-normal and Related Families. Adelchi Azzalini (with Antonella Capitanio)

Case-control Studies. Ruth Keogh and David Cox

New proposals

The editors very much welcome new proposals. The preferred length of the books is 150–250 pages, although there are no rigid requirements. Proposals may be submitted at any stage; often it is helpful to supply the draft of a few chapters and a provisional outline of the whole. Any topic within the broad span of interests of members of IMS is potentially suitable. Please send your proposal to one or more of the Editors: David R. Cox **e** david.cox@nuffield.ox.ac.uk; Ben Hambly **e** hambly@math.ox.ac.uk; Susan Holmes **e** susan@stat.stanford.edu; Jon Wellner **e** jonw@uw.edu.

Discount for IMS members

As an IMS member you can order a discounted copy at http://www.cambridge.org/ims.

Nominate for Janet L. Norwood Award

The Department of Biostatistics in the School of Public Health, University of Alabama at Birmingham (UAB) is pleased to request nominations for the **Fourteenth Annual Janet L. Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences**. The award will be conferred on September 9, 2015. The award recipient will deliver a lecture at the UAB award ceremony, and will receive all expenses, the award, and a $5,000 prize.

Eligible individuals are women who have completed their terminal degree, have made extraordinary contributions and have an outstanding record of service to the statistical sciences, with an emphasis on both their own scholarship and on teaching and leadership of the field in general and of women in particular and who, if selected, are willing to deliver a lecture at the award ceremony. For additional details about the award, a list of previous recipients, and how to nominate, please visit our website.

w http://www.soph.uab.edu/awards/norwoodaward/nominations

Deadline for receipt of nominations is Friday June 26, 2015. Electronic submissions of nominations are encouraged. The winner will be announced by Monday July 6, 2015.

IMS Elections: Meet the Candidates

President Elect Nominee

Jon Wellner

Professor, Department of Statistics, University of Washington

Education
1968: BS Math and Physics, University of Idaho
1975: PhD Statistics, University of Washington

Research Interests
- Semiparametric models
- Empirical process theory
- Large sample theory
- Statistical inference for models with shape constraints

Previous Service to the Profession
IMS Program Secretary: 1994–1997
IMS Council: 2007–2010
IMS Fellows Committee: 1990–1992
IMS Nominating Committee: 1998–2000 (Chair, 1999)
IMS Committee to Select New Editors: 2008
IMS Finance Committee: 2007–2010
IMS Committee on Special Lectures: 2001–2003; 2011–2013
Editor, *Annals of Statistics*: 2001–2003
Editor, *Statistics Surveys*: 2007–2009
Editor, *Statistical Science*: 2011–2013

Brief Statement
The IMS plays a key role as an international society devoted to promotion and development of statistics and probability by way of its journals, conferences, and various honors and awards. I have served the IMS in several editorial and committee roles in the past, and I am deeply honored to be nominated as IMS President-Elect. I look forward to continuing to serve the IMS in this new role with the support and energy of the Executive Committee, the Council, and all the volunteers serving on IMS committees. The past leadership of the IMS has worked hard to sustain and improve the high quality and excellence of its conferences, journals, and related activities. I believe that the IMS is in an excellent position, and by working together we can maintain and continue to improve the quality of the IMS's contributions to the development probability and statistics.

w http://www.stat.washington.edu/jaw/

Council Nominees
This year there are 10 candidates for five places on Council.

Rami Atar

Professor, Department of Electrical Engineering, Technion – Israel Institute of Technology

Education
BSc, Technion 1989
MSc, Technion, 1994
MSc, Technion, 1994

Research Interests
- Diffusion and large deviation asymptotics of stochastic networks
- Stochastic control and games
- Probability and PDE

Previous Service to the Profession
Mathematical Methods of Operations Research, Associate Editor 2008–2014
Annals of Applied Probability, Associate Editor 2009–2012
Queueing Systems, Associate Editor 2010–2013
Mathematics of Operations Research, Associate Editor 2010–2013
Annals of Probability, Associate Editor 2012–

Brief Statement
The journals and scientific meetings of the IMS do an excellent job serving the probability and statistics communities. I would like to support the effort to keep their standards high. I would also work toward maintaining and strengthening support to young researchers and students. Close to my heart is the interaction between theoretical and applied research within these disciplines, which I am committed to promote.

w http://webee.technion.ac.il/people/atar/

Andreas Buja

Liem Sioe Liong/First Pacific Company Professor of Statistics, Statistics Department, The Wharton School, University of Pennsylvania

Education

Diploma, Swiss Federal Inst. of Technology (ETHZ), 1975

PhD, Swiss Federal Inst. of Technology (ETHZ), 1980

Research Interests

- Post-selection inference in the context of reproducibility
- Data visualization and associated statistical inference
- Dimension reduction, in particular multidimensional scaling

Previous Service to the Profession

Founding committee member: *Journal of Computational and Graphical Statistics* (*JCGS*)

Editor: *JCGS* (1997–2000)

Co-organizer of workshops on data visualization (1986, 1989, 1997)

Associate editor: *SJSSC, AOS, JCGS, JASA*

Reviewer: KDD (2004), Visualization (1992–1998, IEEE & ACM/SIGGRAPH)

Brief Statement

The IMS plays a central role in establishing and maintaining the highest standards for the development of statistical theory, methodology and application. Dedicated to this goal, one of my top priorities will be to work toward wider recognition of the reproducibility problem within statistics research. Enabled by computing technology, much is done to data that is not accounted for by statistical inference. Statistics must create the protocols that allow the empirical sciences to generate justifiably qualified knowledge. A larger debate of holistic protocols for data analysis is needed to assure the future success of the empirical sciences.

w http://stat.wharton.upenn.edu/~buja/

Gerda Claeskens

Professor, ORSTAT and Leuven Statistics Research Center, KU Leuven, Belgium

Education

PhD Mathematics (Statistics), Hasselt University, Belgium, 1999

Research Interests

- Model selection and model averaging
- Non- and semiparametric models, estimation and testing

Previous Service to the Profession

Associate editor, *Annals of Statistics*, since 2013

Associate editor, *Biometrika*, since 2008

Associate editor, *Journal of Nonparametric Statistics*, since 2008

Associate editor, *Journal of Statistical Planning and Inference*, since 2012

Associate editor, *Journal of the American Statistical Association*, 2005–2011

Guest editor for *Computational Statistics and Data Analysis* (2011–2012), special issue on Model Selection

Member of the European Regional Committee of the Bernoulli Society, 2008–2012

Member of the Scientific committee for the 28th European Meeting of Statisticians, in Piraeus, Greece

Brief Statement

It is an honor to have been nominated for council member. The IMS plays an important role in disseminating research results in statistics and probability via international meetings and through the publication of high-quality journals. It is important to keep supporting scientific meetings worldwide to stimulate discussions and contacts between researchers, to make young people enthusiastic about the profession. Some of the exciting challenges that the IMS faces are a rapidly changing environment where research is performed in interdisciplinary teams, and high demands for an efficient publication process.

w http://perswww.kuleuven.be/gerda_claeskens

Nancy Heckman

Professor, Statistics and Mathematics, Stanford University

Education

BS (1977), Tufts University, Massachusetts

MA (1982), University of Michigan, Ann Arbor

PhD (1982), University of Michigan, Ann Arbor

Research Interests

- Functional data analysis
- Nonparametric regression
- Applications to evolutionary biology

Meet the Candidates *continued*

Nancy Heckman, continued:

Previous Service to the Profession

Statistical Society of Canada – Centre de Recherches Mathématiques Awards Committee (2013–16)

Pacific Institute of Mathematical Sciences Steering Committee (2009–)

Head, Statistics Department, UBC (2008–)

Fisher Lecture Awards Committee, COPSS (2011–13)

Statistical Society of Canada Awards Committee (2011–14)

IMS Statistics Fellows Committee (2011)

COPSS Award Committee (2005–07)

Local arrangements committee, IMS New Researchers Conference (2010)

Local arrangements committee, Statistical Society of Canada Annual Meeting (2009)

Statistical Society of Canada Program Chair, Annual Meeting (1996)

Associate Editorships: *Annals of Statistics* (1992–95), *Canadian Journal of Statistics* (1995–2003), *Journal of the American Statistical Association* (2002–04)

Brief Statement

I would be proud and honored to serve the IMS. As a member of Council, I would seek ways to promote the objectives of the IMS by taking advantage of the current widespread recognition of the importance of data science. The IMS is well placed to pursue exciting new opportunities here, with its strong membership base that spans the increasingly blurred boundaries between statistics, probability and computer science. In addition, I would work to ensure that the IMS community continues to support and encourage all individuals, especially females and young researchers.

w http://www.stat.ubc.ca/~nancy

Fernando Andrés Quintana

Profesor Titular, Departamento de Estadística, Pontificia Universidad Católica de Chile

Education

PhD Statistics, University of Wisconsin–Madison, 1994

Research Interests

- Nonparametric Bayesian statistics
- Random partition models
- Biostatistics

Previous Service to the Profession

ISBA Board Member (2004–2007)

Associate Editor for *Bayesian Analysis* (2007–2009)

Associate Editor for *Brazilian Journal of Probability and Statistics* (2012–2014)

Associate Editor for *Biometrics* (2013–)

Brief Statement

If elected, I will concentrate my efforts in activities that promote the growth of IMS, especially in Latin America.

w http://www.mat.uc.cl/~quintana

Kavita Ramanan

Professor, Division of Applied Mathematics, Brown University

Education

1992 B. Tech. in Engineering, IIT Mumbai, India

1993 Masters in Applied Mathematics, Brown University

1998, PhD in Applied Mathematics, Brown University

Research Interests

- Probability theory, stochastic processes and their applications
- Large deviations and concentration of measure
- Gibbs measures and phase transitions
- Stochastic analysis
- Stochastic networks and their scaling limits

Previous Service to the Profession

Associate Editor: *Annals of Probability* (2006–2012); *Annals of Applied Probability* (2009–); *Mathematics of Operations Research* (2007–); *Queueing Systems* (2008–); *Stochastic Analysis and Applications* (2002–2012)

Various IMS Committees including the Nominations Committee (2011–2012) and Committee on Special Lectures (2014–)

AMS and Bernoulli Society Nominations Committee (2014–)

SMAI (French Applied Math Society), Member of Scientific Council

Prize Committees: (i) INFORMS George Nicholson Prize (2013–2014, chair 2014); (ii) APS Erlang Prize (2014–2016, chair 2015)

Scientific committee of various conference series, including: (i) Committee for the Conferences on Stochastic Processes (2010–); (ii) Seminar on Stochastic Processes (2014–); (iii) Stochastic Networks (2008–)

Organizer/co-organizer of several conferences including: the Applied

Probability meeting in Stockholm (2011); ICERM semester program on Computational challenges in Probability, Providence (Fall 2013); the IMI Meeting on "Limit Theorems in Probability" in Bangalore (Jan 2013)

Brief Statement

I am honored to have been nominated as a candidate for the IMS Council. This is an exciting era for probability and statistics, with significant advances in both theory and applications. If elected to the council, I would continue to support the IMS in its mission to maintain the highest standards for its publications. I would also help foster interaction between probability, statistics, and other mathematical and scientific disciplines, and take measures to improve public understanding of the importance of these fields. I would strongly encourage meetings and other activities that support young researchers from around the world.

w http://www.dam.brown.edu/people/ramanan/index.htm

Philippe Rigollet

Assistant Professor, Department of Mathematics, Massachusetts Institute of Technology

Education

BSc in Statistics, Paris Institute for Statistics (ISUP), 2002

BSc in Applied Mathematics, University of Paris VI, 2003

MSc in Statistics, University of Paris VI, 2003

PhD in Mathematics, University of Paris VI, 2006

Research Interests

- High-dimensional Statistics
- Machine Learning
- Aggregation and model selection
- Computational Statistics

Previous Service to the Profession

Associate Editor for *Bernoulli*, 2013–16

Associate Editor for *Journal of Statistical Planning and Inference,* 2012–15

Associate Editor for *Statistical Inference for Stochastic Processes,* 2015–16

Steering Committee of the Association for Computational Learning, 2013–16

Brief Statement

It is an exciting time for all of us. The IMS has always been committed to academic excellence in probability and statistics, theory and applications. More than ever, interactions, collaborations and training are key to finding solutions to the new challenges coming from industry and other scientific disciplines. If elected, I am committed to continuing the IMS tradition of excellence in publications and meetings while embracing these new opportunities. I am also committed to supporting interactions not only between its core disciplines, probability and statistics, but also with other connected fields: computer science, mathematics and more broadly, life sciences.

w http://www-math.mit.edu/~rigollet/

Ming Yuan

Professor,
Department of Statistics,
University of Wisconsin–Madison

Education

PhD, 2004, University of Wisconsin–Madison

Research Interests

- High dimensional data analysis
- Nonparametric methods
- Statistical learning
- Optimization

Previous Service to the Profession

Associate Editor, *Journal of the Royal Statistical Society – Series B,* 2012–

Associate Editor, *Annals of Statistics*, 2010–

Associate Editor, *Electronic Journal of Statistics*, 2010–

Associate Editor, *Biometrics*, 2008–2012

Area Editor/Senior Program Committee, AISTATS 2010 / AISTATS 2015

Brief Statement

I am honored to be an IMS council nominee. I joined the IMS when I was a graduate student and have benefited tremendously from the various programs and opportunities offered by the IMS throughout my career. If given the opportunity, I would be privileged to serve the IMS and help to preserve its great tradition of guiding and promoting our profession, particularly amid the explosion of its popularity.

w http://www.stat.wisc.edu/~myuan

Meet the Candidates *continued*

Chunming Zhang

**Professor, Department of Statistics,
University of Wisconsin–Madison**

Education

BS, Mathematical Statistics, 1990, Nankai
University, Tianjin, China
MS, Computational Mathematics, 1993,
Academia Sinica, Beijing, China
PhD Statistics, 2000, University of North Carolina–Chapel Hill

Research Interests

- Neuroinformatics and bioinformatics
- Machine learning & data mining
- Multiple testing; large-scale simultaneous inference and applications
- Statistical methods in financial econometrics
- Non- and semi-parametric estimation & inference
- Functional & longitudinal data analysis

Previous Service to the Profession

Associate Editor, *Annals of Statistics* (2007–2009); *Journal of the
American Statistical Association* (2011–2013; 2014–); *Journal of
Statistical Planning and Inference* (2012–).
Program Committee for the 2015 Joint Statistical Meetings (2014–
2015), Representative for American Statistical Association Section on
Nonparametric Statistics.
Publication Committee of International Chinese Statistical
Association (2015–2017).
Program Chair-Elect (2014) and Program Chair (2015), Section on
Nonparametric Statistics, American Statistical Association.
Charting Committee of International Society for NonParametric
Statistics (2012–).
Committee on Nominations (August 2009–August 2010), Institute
of Mathematical Statistics.
Board of Directors of the International Chinese Statistical
Association (2009–2011).
Organizing Committee of SAMSI Program on Neuroimaging
Data Analysis (2013); Organizing Committee of Workshop on
Nonparametric Models for Complex Biological Data (2005).

Brief Statement

I appreciate the IMS for publishing many well-regarded journals in
probability, theoretical statistics and applied statistics as well, for
sponsoring worldwide IMS meetings, and more importantly for
supporting new researchers in many IMS activities and missions.
It is my great honor to stand for election as a council member of
IMS. If elected, I will work together with other council members to
strengthen IMS activities and develop more IMS activities for young
researchers from interdisciplinary programs with new connections
with other fields.
w http://www.stat.wisc.edu/~cmzhang/

Ilze Ziedins

**Associate Professor, Department of
Statistics, University of Auckland**

Education

BA in Mathematics and German, Waikato
University, 1981
Diploma in Mathematical Statistics,
University of Cambridge, 1983
PhD, University of Cambridge, 1989

Research Interests

- Stochastic networks
- Queueing theory
- Optimizing health care delivery

Previous Service to the Profession

Queueing Systems, Editorial Board, 2011–
Australian and New Zealand Journal of Statistics, Editorial Board,
2001–2006 and 2012–
Stochastic Models, Editorial Board, 2002–2007
Vice-President, Operations Research Society of New Zealand, 2013–

Brief Statement

The IMS is a wonderful community of statisticians and probabilists.
If elected, I would work to promote membership of the IMS amongst
young researchers. I am also very interested in working on ways of
enhancing the participation of those members of the society who have
less opportunity to attend meetings, and in outreach activities for the
IMS.
w https://www.stat.auckland.ac.nz/showperson?firstname=Ilze&surn
ame=Ziedins

Obituary: Kathryn Chaloner

1954–2014

Kathryn Chaloner accepting her COPSS Elizabeth Scott Award at last year's JSM

Kathryn Chaloner, 60, passed away on October 19, 2014. She was a fellow of the ASA and the AAAS, and an elected member of the ISI. From 2002 to October 2014, Kathryn was Professor and Head of the Department of Biostatistics at the University of Iowa. A few months before she died, she had received the 2014 COPSS Elizabeth L. Scott Award at the Joint Statistical Meetings in Boston.

Kathryn was born in Crewe in Cheshire, UK, and she earned a bachelor's degree (with honours) in mathematics from Oxford University, followed by a master's degree (with distinction) in statistics from University College London. In 1978 she moved to the United States to work with the late Morrie DeGroot on her PhD in statistics at Carnegie Mellon University. In 1982 she started her academic career at the School of Statistics, University of Minnesota, progressing from an Assistant to a Full Professor by 1996. She moved to the University of Iowa in 2002 and was Head of Biostatistics with a secondary appointment in Statistics and Actuarial Science.

Early in her research career, Kathryn was a pioneer in the area of Bayesian optimal design, with her 1984 *Annals of Statistics* paper cited as the first work in the literature to develop a Bayesian optimal design theory for linear models. This was followed by papers exploring Bayesian optimality in other scenarios, including various non-linear models (see Chaloner and Larntz, 1989 and 1992, *JSPI*) and compartmental models (Atkinson et al., 1993, *Biometrics*). Another highly cited paper is a 1995 review article on Bayesian experimental design in *Statistical Science*, co-authored with Isabella Verdinelli. In the same time period, Kathryn's first PhD student, Merlise Clyde, was awarded the 1994 Savage Award for her dissertation entitled "Bayesian

Optimal Design for Normality". During these years, Kathryn also worked on Bayesian outlier detection and residual analysis, with Chaloner and Brant (1988, *Biometrika*) and Chaloner (1991, *Biometrika*) standing out as notable contributions. In the 1990s Kathryn also developed an interest in prior elicitation, especially in clinical trials, with much of her subsequent work focusing on studies of HIV and AIDS.

After her move to Iowa, along with developing the Biostatistics program—including a very successful Summer Institute in Biostatistics program—and maintaining an active research program, Kathryn devoted much energy to her passion for diversity and inclusion of underrepresented groups. In 2011 she received the University of Iowa Diversity Catalyst Award in "recognition of innovative and distinctive efforts to enhance diversity and inclusion." She also became an active member of the National Alliance for Doctoral Studies in the Mathematical Sciences, heading up the Statistics and Biostatistics initiative, advocating for the inclusion and mentoring of individuals from underrepresented groups in the US. [*She wrote an article about this in the December 2013 Bulletin: see* http://bulletin.imstat.org/2013/11/math-alliance-a-new-model-for-inclusion-and-diversity/ *– Ed*]

The citation for her 2014 Elizabeth L. Scott Award aptly describes her efforts "for her commitment and success in developing programs to encourage and facilitate women to undertake careers in statistics; for extensive mentoring of women students and young faculty; for work to identify and remove inequities in employment for underrepresented components of the profession; and for serving as a role model, balancing work and family while excelling as a teacher, researcher and academic administrator."

Other tributes to Kathryn describe various aspects of her professional and personal life. Rob Weiss at UCLA Biostatistics gives a wonderful personal perspective from his days as a student at UMN (https://faculty.biostat.ucla.edu/robweiss/node/169). Richard Smith, Director of SAMSI, has fond memories of Kathryn as a fellow student at Oxford and later as an organizer of a Math Alliance Workshop at SAMSI (https://samsiatrtp.wordpress.com/2014/10/). *Amstat News*, along with newspapers in Iowa City describe her love of travelling with her family—her husband Luke Tierney and sons Graham and Patrick, who survive her—of creating a garden to attract hummingbirds, and of playing the flute (http://magazine.amstat.org/blog/2014/12/01/obituaries-for-december-2014/).

Others have shared their memories and tributes, notably at the November 2014 Field of Dreams Conference by the Math Alliance, where part of a session was devoted to tributes to Kathryn by Phil Kutzko (University of Iowa) and Carlos Castillo-Chavez (University of Arizona), among others.

A memorial fund has been established in honor of Kathryn Chaloner through the University of Iowa Foundation to support underrepresented minority students in the College of Public Health Department of Biostatistics. Contributions to this fund can be sent to: Kathryn Chaloner Student Scholarship Fund, UI Foundation, P.O. Box 4550, Iowa City, IA 52244-4550.

Written by Snehalata Huzurbazar
University of Wyoming

OBITUARY: **Robert (Bob) Hogg**

1924–2014

Robert V. "Bob" Hogg, Professor Emeritus of Statistics and Actuarial Science, passed away on December 23, 2014, in Highlands Ranch, CO, aged 90. Professor Hogg was an internationally renowned statistics textbook author, pioneering researcher, and an award-winning teacher. Blessed with a fun-loving, charismatic personality and a sharp mind, Bob has been aptly described as a giant in statistics. Through his invaluable service to the profession, including a term as president of the American Statistical Association, Bob marshaled efforts to improve statistics education and left his mark in many other ways. The founding chair of the Department of Statistics and Actuarial Science at the University of Iowa in 1965, Bob will be remembered by his colleagues as an indefatigable and inspirational leader who fostered an atmosphere of mutual respect. He valued diverse contributions, promoted excellence, and energized the department with his mantra, "Let's make learning fun." His legacy will endure. His convivial personality and especially his friendship will never be forgotten.

Bob was born November 28, 1924, in Hannibal, Missouri. (He was fond of reminding folks, tongue-in-cheek, that another famous author, Mark Twain, hailed from Hannibal.) After receiving his BS in mathematics at the University of Illinois, he matriculated at the University of Iowa in 1947. Fortunately for the university, he was to remain there until he retired 54 years later. Blessed with a gregarious personality and quick wit, Bob was a fixture on campus and in the Iowa City community. Whether handing out candy canes across campus dressed as Santa or telling (and re-telling) amusing stories at Rotary Club meetings, his love of the university and the community was conspicuous.

Bob earned his PhD in 1950, under the direction of Allen T. Craig, a statistician in the UI mathematics department. Allen, who would become Bob's long-time friend, mentor, and co-author, convinced Bob to join the faculty upon graduation. After 15 years in the mathematics department, Bob became the founding Chair of the newly formed Department of Statistics and Actuarial Science in 1965. Serving in this capacity for 19 years, Bob created a world-class department that valued diverse contributions and promoted excellence in all three areas: research, service, and teaching. He fostered an atmosphere of mutual respect and was fond of reminding everyone that learning should be fun—he practiced what he preached. Bob was an inspirational and effective leader loved by his staff and known for his skills as a consensus builder. He was a man of action and most importantly a strong advocate of his colleagues, especially junior faculty members.

Many in the department will remember how Bob went out of his way to encourage young faculty members and students. He would hand-deliver short notes of congratulation when a paper was published or peek his head into an office just to give a few words of encouragement. He never missed an opportunity to thank someone for a job well done. A wonderful mentor, he enjoyed team teaching with junior faculty right up his retirement. The department fondly remembers Bob's "final" colloquium talks. (There were three or four of these "final" talks, which would not surprise those who knew Bob.) He would begin by saying, "Statistics is my friend," because it introduced him to so many interesting people from around the world. The "ham in hogg" was manifest in his telling (and re-telling) of amusing stories and jokes. Always the entertainer, Bob would end

each of these talks with a modified rendition of the song, *Thanks for the Memories*.

Bob was not only devoted to the department and the university, he also served the statistics profession in many ways. Among other things, Bob served as the President of the ASA in 1988. He was Program Secretary for the IMS (1968–74). He twice chaired the ASA's Education Section, and he was twice the Program Chair of the ASA Winter Conferences. In 1991, he received the ASA Founders Award. And in 2006, he received the IMS Carver Medal for his "exceptional service specifically to the IMS." His vision and charisma served him well, and the profession has benefited greatly from his efforts.

Bob was a pioneering researcher who wrote many influential articles on topics including statistical independence, non-parametrics, quality improvement, robust and adaptive statistics, and statistics education. For his research contributions in non-parametric statistics, Bob received the Gottfried Noether Senior Scholar Award in 2001. This award is one of several prestigious awards bestowed on Bob over the years. In recognition of his outstanding research, Bob was an elected fellow of the ASA and IMS, and of the International Statistical Institute.

A gifted textbook author and a true scholar, Bob was an exemplar of how research can inform and energize teaching, and vice versa. Bob, along with his mentor Allen Craig, co-authored a very successful mathematical statistics textbook that drew on their research and classroom experiences. This book, known to many as "Hogg and Craig," was innovative in its treatment of sufficiency and change-of-variable methods. Originally published in 1959, "Hogg and Craig" is now in its 7th edition (which added Joe McKean as a co-author). Printed in many languages, it is internationally renowned and continues to

inspire a new generation of statistics students. Over the years, Bob co-authored several more successful statistics textbooks, including "Hogg and Tanis," "Hogg and Klugman" and "Hogg and Ledolter," all benefited from Bob's attention to detail and his clear writing style.

Students and colleagues remember Bob as an extraordinary teacher with an infectious love of statistics. Indeed, Bob fostered a culture of excellence in teaching in the Department of Statistics and Actuarial Science that lives on to this day. His lively teaching style was very effective, if a bit unconventional. One of his techniques was to good-naturedly "pick on" a randomly selected student, quizzing him or her throughout the class period. That this approach worked so well, and that students all report learning so much, is a testament to Bob's gift as a teacher and his ability to make learning fun. In recognition of his teaching efforts and effectiveness, Bob was honored with numerous awards. From 1990–1993 alone, he received the Governor's Science Medal for Teaching (1990), University of Iowa Teaching Award (1991), Distinguished Teaching Award from the Iowa Chapter of the Mathematical Association of America (1992), Faculty Excellence Award from the Iowa Board of Regents (1992), and the Distinguished Teaching Award from the MAA (1993).

Bob's interest in teaching went well beyond his own classrooms. He was internationally recognized as a leader in statistics education when he received the ASA's Founders Award in 1991. Always a promoter of quality improvement, he once toured the country, visiting businesses, industry, and academic programs to better understand how statistics education could be improved and modernized to better align with the way statistics was actually being used in practice. He also took advantage of his term as president of the ASA to emphasize the need to improve statistics education. Bob authored and co-authored several influential papers on statistics education. Owing to Bob's many contributions, the statistics profession and classrooms are healthier than ever.

In 2003, Bob was the recipient of the University of Iowa's Faculty/Staff Distinguished Alumni Award. It is fitting to finish with a quote from Bob's profile at the award website: "The Alumni Association is proud to honor a man whose career has helped define the field of statistics, and whose work as an educator has benefited—and will continue to benefit—generations of students at the UI and throughout the world."

For more information about Bob Hogg, see for example, http://en.wikipedia.org/wiki/Robert_V._Hogg; Randles, R.H. (2007), "A Conversation with Robert V. Hogg," *Statistical Science*, **22**:1, 137–152, DOI: 10.1214/088342306000000637; and Randles, R.H. & Calvin, J.A. (1996), "The Professional Contributions of Robert V. Hogg," *Communications in Statistics – Theory and Methods*, **25**:11, 2467-2481, DOI: 10.1080/03610929608831850.

Joseph B. Lang, Department of Statistics and Actuarial Science, University of Iowa

OBITUARY: Pejaver V. Rao

1935–2015

Professor Pejaver V. Rao (known as P.V.) died on January 2, 2015 at his retirement home in North Carolina after a lengthy and courageous battle with cancer. He was hospitalized in mid December, but returned home to spend the holidays with his family, who were with him at his death.

Professor Rao was born in 1935 in southwest India. He earned a BA in 1954 from the University of Madras and an MA in 1956 from the University of Bombay. After a few years of teaching statistics at the College of Science, Nagpur, he received a Georgia Rotary Scholarship to complete his graduate work in statistics at the University of Georgia, from which he received a PhD in 1963.

P.V. accepted a faculty appointment in the newly formed Department of Statistics at the University of Florida in 1964, and was a guiding light for the department for the next 34 years. He developed and taught many of the graduate courses offered by the department, and served as the PhD adviser for numerous doctoral students. He carried out research in nonparametric statistics and branched out to the analysis of survival data as a result of his consulting with faculty of the medical colleges. His textbook *Statistical Methods in the Life Sciences* resulted from his excellence in teaching statistics to diverse groups of graduate students in the life sciences. He retired from the University of Florida in 1998.

P.V. was a member of IMS and ASA, and an elected member of the International Statistical Institute. He was a very valuable contributor to the statistics profession, the University of Florida and the Gainesville community. P.V. will be greatly missed by the many people whose lives he touched and enlightened, not only through his knowledge of statistics, but also through his wide-ranging wisdom and finely-tuned sense of humor.

Further information can be found at http://goo.gl/0j5TE8

Written by Richard L. Scheaffer, Ronald H. Randles, Dennis D. Wackerly, and Brett Presnell (University of Florida)
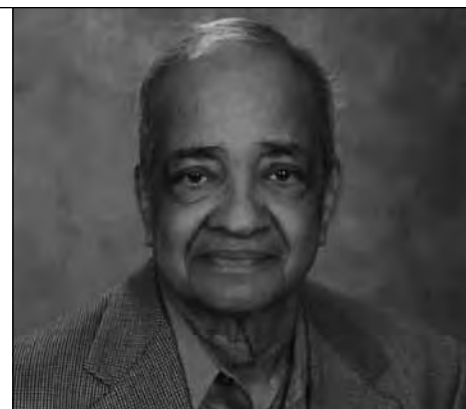
Le Cam Lecture preview: Jon A. Wellner

Jon A. Wellner, born in 1945 in Oregon, graduated in Mathematics and Physics from the University of Idaho in 1968, and received his PhD from the University of Washington in 1975. He began his academic career at the University of Rochester in 1975 as an Assistant Professor of Statistics, and was promoted to Associate Professor in 1981 after a sabbatical leave at the Mathematics Institute at the University of Munich. He returned to the University of Washington as Professor of Statistics in 1983. His research has alternated between statistical issues concerning semiparametric models and asymptotic theory of empirical processes. He gave an IMS Special Invited Lecture (or Medallion Lecture as they are now called) in 1992, and was honored with the Senior Noether Award by the ASA in 2011. In recent years his research has focused on nonparametric statistical inference under shape restrictions.

Jon Wellner presents this year's Le Cam Lecture, given every third year in memory of Lucien Le Cam

This IMS Le Cam lecture, *Maximum likelihood in modern times: the ugly, the bad, and the good*, will be delivered at the JSM on Monday 10 August 2015 in Seattle.

Maximum likelihood in modern times: the ugly, the bad, and the good

Maximum likelihood continues to be a theme in current statistical theory in both parametric and nonparametric settings despite a number of known potential difficulties:

- Maximum likelihood estimators may not exist.
- When MLEs exist, they may not be consistent.
- When MLEs exist and are consistent, they may not attain optimal rates of convergence.

In spite of these difficulties, maximum likelihood has also had a number of success stories in semiparametric and nonparametric problems.

The talk will survey some of the difficulties and a selection from recent progress, including:

The ugly: non-existence, non-uniqueness, and inconsistency.

The bad: possible non-attainment of optimal rates in high-dimensional settings.

The good: lack of dependence on tuning parameters, and:

- beyond consistency for Kiefer–Wolfowitz mixture models;
- behavior of profile-likelihood methods for semiparametric models;
- behavior of shape constrained estimators globally, locally, and under model-misspecification.

Sankhya solicits contributions

Sankhya Series A plans to publish a special issue on *Application of Concentration Inequalities and Empirical Processes to Modern Statistics* as Part II of Volume 78, scheduled to come out in August 2016. The special issue will contain five invited papers on the topic, one of which will be a discussion paper. In addition, we plan to also include a few contributed research papers on the above topic in the special issue. On behalf of the Editorial Board of Series A, it is my pleasure to invite contributions for the special issue. Submissions for the special issue should be of no more than 25 pages in the *Sankhya* journal format and should include the phrase "(Special Issue)" following the title. All submissions for the special issue should be made on the submission website for *Sankhya Series A* (http://www.springer.com/statistics/journal/13171: see the "Instructions to Authors" page) and should be made no later than 15 November 2015. Needless to say that all such submissions will go through the usual review process of our journal. Because of the size constraint on individual issues, we may be able to accept no more than five contributed papers for publication in the special issue.

Bimal K. Roy, Director of the Indian Statistical Institute

Hand writing: It's not rocket science

Contributing Editor David Hand explains that while statistics as a field is not impossible, it *is* often misunderstood:

The importance of public understanding of science, and of outreach activities more generally, is now widely accepted. Much research funding comes from public sources, so there's an obligation to ensure that the money is well spent, and that people understand what they are getting in return. Beyond that, a well-informed population is necessary so that people understand the modern world and can make rational decisions about their lives.

However, we have to acknowledge that science is a rather esoteric activity. Contrary to what is believed in some quarters, scientists do not deliberately create technical jargon with the aim of obscuring their meaning to the non-cognoscenti. Rather, the technical jargon is created to reduce the risk of ambiguities and mistaken meanings, and to encapsulate complex concepts in concise terms.

Language difficulties aside, the fact is that science *is* difficult to understand. How could it be otherwise: if it were easy, it would not be necessary for researchers to devote their lives to it.

But this very difficulty, along with the necessarily complex language, does stimulate suspicions about scientific research. Some years ago, I led a discussion about research for an audience of interested laypeople at the Dana Centre in the UK. I was mainly talking about clinical trials, and I still recall the person who said they didn't trust *any* published research results. "After all," they said, "someone had to fund the research, and why would they do that unless they had a vested interest in the outcome?"

Clearly the key here is education. This point was also driven home by the results of a study exploring the public's views on using administrative data for research purposes, carried out by Ipsos MORI for the UK's Office for National Statistics and its Economic and Social Research Council (http://www.esrc.ac.uk/_images/Dialogue_on_Data_report_tcm8-30270.pdf). This study found that "participants generally had a very low initial awareness and understanding of social research ... at the beginning of the dialogues, low awareness of the uses of social research drove scepticism about its value.... [Participants in the study] who started the day with low awareness of social research (and therefore low trust) found discussing the issues and speaking to experts interesting and reassuring."

So the answer is education, enhanced public understanding, and so on. But the obstacle is that it's tough. It's one thing to find that members of the public who are prepared to spend a day listening to and talking to researchers grow in understanding, awareness, and appreciation of research, but we can hardly expect everyone to do so—even if we scientists had the time.

If these challenges are tough in science in general, they are particularly troublesome in statistics. This is not because statistics is a uniquely tough discipline—though tough it is. It's because, on the one hand, many people must have a basic grasp of the subject (necessary in order to be able to carry out their jobs—statistics is almost uniquely ubiquitous) while on the other hand, a basic grasp may not do the job. Things are then further complicated by the ready availability of tools which permit people to appear to be able to undertake highly sophisticated analyses, regardless of whether they understand what they are doing. After all, a computer program just manipulates the numbers, in ignorance of what those numbers mean.

Take medical research, for example. There have been several studies investigating statistical errors in published medical research papers (with rather alarming results). In most cases, they are errors of the kind one would hope a professional statistician would avoid. A large part of the danger is the dumbing down of statistics, to simple, easily understood—and wrong—answers. Statistical ideas are often subtle: think of the Monty Hall problem, or concepts such as regression to the mean or Simpson's paradox, for example. It can take extensive study to understand, appreciate, and avoid such misconceptions.

The underlying point is that statistical concepts require more careful study than most researchers in other domains, or people presented with statistics, have time for. The resulting misunderstandings help to promote mistrust of the discipline.

All of this makes me wonder if, for statistics, the emphasis should not be so much on public *understanding*, but public *appreciation*. That is, on trying to communicate a recognition of the importance of the discipline, coupled with an appreciation that one needs advanced technical skills to do it properly, rather than placing so much emphasis on (a doomed effort of) trying to equip people with the skills to do it. Perhaps we need a greater recognition of the fact that building valid understanding from data requires sophisticated expertise, of the kind possessed by statisticians, just as building successful rockets requires sophisticated expertise, of the kind possessed by rocket scientists.
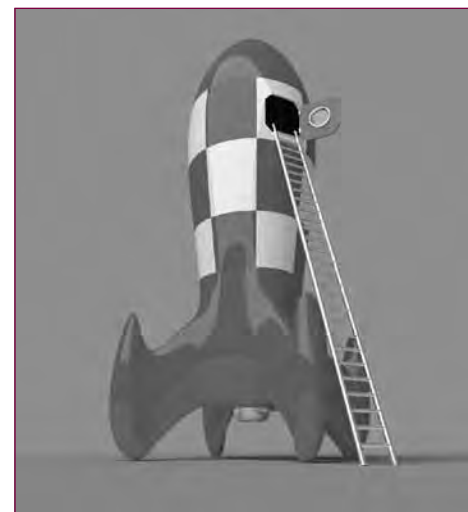
Recent papers

Stochastic Systems Volume 4, 2014

Focusing on the interface of applied probability and operations research, *Stochastic Systems* is the flagship journal of the INFORMS Applied Probability Society and is published through a cooperative agreement between INFORMS and the IMS. This open-access journal seeks to publish high-quality papers that substantively contribute to the modeling, analysis, and control of stochastic systems. The contribution may lie in the formulation of new mathematical models, in the development of new mathematical methods, or in the innovative application of existing methods.

Access papers at http://www.i-journals.org/ssy/

Issue 1, Volume 4

Additional Accepted Papers

Probability Surveys Volume 11, 2014

Probability Surveys publishes survey articles in theoretical and applied probability. The style of articles may range from reviews of recent research to graduate textbook exposition. Articles may be broad or narrow in scope. The essential requirements are a well specified topic and target audience, together with clear exposition. *Probability Surveys* is sponsored by IMS and the Bernoulli Society.

Access papers at http://www.i-journals.org/ps/

Vlada's Point: Learnering Survey

Yes, you read that right. Contributing editor Vlada Limic continues her series of columns on work**shops**, **work**shops and a neologism: *learnering*…

Workshops (by which I mean work**shops**) will be organized as long as there is available funding for them. The reader is welcome to ask if this is a chicken-and-egg problem, but I wish to move on. My last column [in the December 2014 issue] described a particularly simple **work**shop format, which will be called *learnering* here. Please disregard the deliberate typo, and note that the word does not refer to any currently practiced form of scientific meeting.

Are learnerings feasible? Undoubtedly there are thousands of highly qualified potential participants—but talent is clearly not the only requirement, otherwise **work**shops would be already organized on a regular basis. Indeed, there are other important factors to consider, and many questions come to mind. Would there be a critical mass of mathematicians and statisticians motivated to participate in a learnering? If so, where would the funding come from, and how would it be distributed/spent? How could young researchers (graduate students, postdocs) benefit from it? Is learnering an improvement over work**shop** in terms of advancing intradisciplinary and/or interdisciplinary research? In particular, would science improve significantly more if the same people met at a learnering instead of at a work**shop**?

At this point it is difficult to give (or even anticipate) answers to these or similar questions. One can still make the following observations:

i) In terms of material resources, the learnering format does not require any new investment. A small classroom with good blackboard facilities is sufficient for the final meeting, and this can be found at any major university during term breaks. As for the longer preparatory stage, we are already well equipped with internet, Skype or phone.

ii) In terms of travel and accommodation expenses, learnerings and workshops would carry the same cost per (invited) participant.

So it makes sense to ask for funding which would be available globally rather than centrally. Some conditions and restrictions specified by the (academic, governmental or continental) sources of funding are inevitable, but they would likely be very similar to those currently set for workshops. I expect that releasing funds on a first-come-first-serve basis should be optimal, with possibly some constraints built into the algorithm.

Even though our community has an enormous potential in terms of abundant human resources, most of us are (close to) overloaded most of the time, often with tedious administrative tasks. While benefits of any learnering participation are clear, the possible time and energy input from each of us is limited. Indeed, this is one of the major differences between learnerings and work**shops**: while one could potentially attend (and speak at) 52 different week-long work**shops** per year, efficiently participating in more than two or three different learnerings per year seems quite hard. In any case, the funding provided should not incur additional heavy administrative tasks for the co-organizers.

A weekly graduate student seminar is nowadays commonly held in Mathematics or Statistics departments. Its participants are peers who typically already spend a non-trivial amount of time together, and are used to learning from each other. So it should be particularly simple to change this seminar's format to resemble that of a learnering. More precisely, the seminar could run on the same weekly schedule, and the same topics could be covered, with the difference that π_i would help i learn the topic chosen by π_i, and i would then lecture on it [see my previous column]. There is no material cost involved in applying this change, and I believe the graduate students would benefit much more from this practice than they do from the current one.

I am sure that there are ways to find funding for learnerings—even in a year from now—provided our community shows a strong enough interest in the experiment.

Before putting time and energy into any fundraising, I would like to invite all the IMS-ers and all our colleagues in Mathematics, Statistics and related fields to fill out my SurveyMonkey (SM) questionnaire.

I am counting on you to help me spread the word.

The questionnaire contains seven questions (with some subquestions), of which most are multiple choice. There is as much room left for comments as the basic SM package allows. Anonymous participation is possible, but contact information (e.g. email) can be included.

While SM specializes in market surveys, and cares about bias, A/B testing and randomization, this is not my concern here. I simply decided to use their free* tool, in hope of collecting data in support of learnering.

If we've communicated by e-mail in the last few years, the first batch of invitations (in late April) should include you. Anyone else wishing to participate should send a message from their (preferably university) account to my address below, with "Learnering survey" as the title. I will typically not reply to this message, but will instead use a SurveyMonkey engine to generate a unique invitation and send it to the e-mail address provided.

I intend to report the results of the survey later this year.

e vlada.limic@math.u-psud.fr

*   SM is free for small questionnaires aimed at a moderate-sized audience
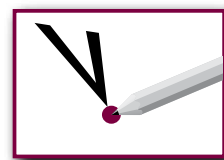
XL-Files: Frequent(ist) Flu and Fiducial Cure?

Photo: Harvard University

Xiao-Li Meng writes:

Some events in life repeat, although not necessarily in an i.i.d. fashion. For some unlucky or lucky ones (see my last *XL-Files*, http://bulletin.imstat.org/2014/12/xl-files-pray-with-me-statistically/) this has been a season of repeated storms *and* flu. A trip to London had to be canceled because the flu bug, with her fever(ish) sister, visited me in mid-December, providing me with a much-needed excuse to stay in bed. I even had time to contemplate how faithful is an English translation of the poem that has touched billions of feverish (Chinese) hearts, *By Chance* (偶然): "I am a cloud in the sky / A chance shadow on the wave of your heart / Don't be surprised / Or too elated / In an instant I shall vanish without trace..." But the storms took away the cloud, and the feverish sisters certainly did not vanish in an instant.

As a matter of the fact, they put me in bed again, right after the New Year and just before another trip to London (and then China). Thank God that the i.i.d. assumption did not seem to apply, because my body did learn from its last encounter with the fiendish sisters. Consequently, I had time only to finish "My Brief History," and with no time to get to "The *Briefer* History of Time," I developed a deeper appreciation for Stephen Hawking's desire, and ability, to construct brief/briefer time.

Of course n=2 does not qualify for being *frequent(ist)*, especially when the effective sample size is less than two, thanks to the shadow or "latent trace." However, the flu bug, this time without her feverish sister, waited for me at Logan airport upon my return from China. Now this got a bit too tiring, especially because I had another guest with me—Mr. Jetlag. Indeed, I was so fatigued that I started to wonder if I had some other uninvited guests living with me. I therefore visited my doctor, who ordered a number of blood tests, which all came back negative. Great! Forget about all the test *sensitivities* and *specificities* that I emphasized so much when teaching *Vital Statistics for Life and Medical Sciences;* surely, I had no interest to second guess the results that I had *hoped* for.

But sometimes hope alone does not do the trick—I was still feeling very fatigued. My doctor examined my medical history, and found that once I was diagnosed with a mild sleep disorder (apparently, my body is a bit too active when it should enjoy a downtime). Upon learning that I had not been properly treated (as I did not think that was necessary), he smiled: "Well, that explains it. Guess what's the #1 symptom of having a sleep disorder? Fatigue! I am therefore almost certain that you will feel better if you get it treated."

I instantly felt more energy, for I found the reason and a cure. But the moment I walked into the snow, the statistical flakes cooled me down: "Wait a minute... he just played a fiducial trick on me!" It's a classical "fiducial switching": that (1) fatigue, F, is the #1 symptom, S, given sleep disorder, SD, as *the cause,* C, implies that (2) SD is the #1 cause for F.

This assertion is not guaranteed even if we allow ourselves to commit a prosecutor's fallacy by interpreting $P(S|C)$ as $P(C|S)$, because for (1) and (2) to hold simultaneously would require (F, SD) to be the most frequent combination among all pairs of (S, C) that contain F or SD.

Furthermore, the prior $P(C=SD)$ is not necessarily 1 even if I have SD, unless we can rule out competing risk.

Indeed, I was previously told by a doctor at University of Chicago that I had CFS (chronic fatigue syndrome), for which there is no blood test. Surely $P(S=F|C=CFS)=1 \geq P(S=F|C=SD)$, and to make the matter worse, a common symptom of CFS is SD. So now should I still be treated for SD? Incidentally, another doctor at Chicago thought CFS should really stand for "Chicago faculty syndrome," because he attributed all my fatigue to my anxiety about getting tenure. (My fatigue did go away shortly after I got tenure. Coincidence?)

My doctor may well have reasoned correctly based on the information he had, and he chose to convey it to me in a simplistic way, unaware of my occupation. But the very fact that my statistically well-trained (or apparently not!) mind was so eager to accept the "fiducial cure" highlights an issue that has been largely unformulated in statistical/probabilistic literature: the impact of an outcome's desirability (or lack of it) on our ability to rationally assess or interpret its probability or risk. Fortunately, our philosophy friends take such problems to heart. Check out books such as Lara Buchak's *Risk and Rationality* (2013) during your next feverish encounter, though of course I don't wish you to have to finish an entire book in bed!

What do sleepless sheep count?

Student Puzzle Corner 9
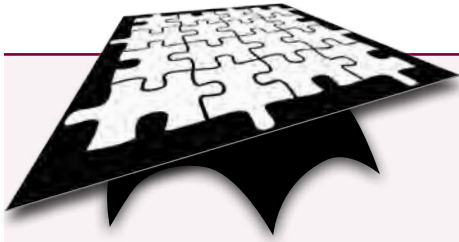
The *Student Puzzle Corner* contains one or two problems in statistics or probability. Sometimes, solving the problems may require a literature search.

Current student members of the IMS are invited to submit solutions electronically (to **bulletin@imstat.org with subject "Student Puzzle Corner"**). The deadline is **April 25, 2015**.

The names and affiliations of (up to) the first 10 student members to submit correct solutions, and the answer to the problem, will be published in the next issue of the *Bulletin*.

The Editor's decision is final.

It is the turn of a probability problem this time. We are going to look at some questions about how random walks evolve over time. Random walks provide a great deal of intuition about randomness in general. Add to that the fascinating results that give the subject a great deal of structure and universality, and the variety of random phenomena that are modeled using random walks in some form or the other. Here is the exact problem of this issue. It is of a classic nature; but to state it clearly, we will first need a few definitions.

For given $d \geq 1$, suppose $X_1, X_2, \cdots$ are iid d-dimensional random vectors with common distribution F. Define $S_0 = 0$ and for $n \geq 1$, $S_n = X_1 + X_2 + \cdots X_n$. Then, S_n is called a random walk driven by F. Take any fixed point $x \in \mathcal{R}^d$ and any fixed $\varepsilon > 0$. The point x is called a recurrence point of the random walk S_n if $P(\|S_n - x\| < \varepsilon$ for infinitely many $n) = 1$; i.e., S_n returns to any given neighborhood of x, however small, infinitely many times with probability one. The set of all recurrence points x of the random walk S_n is called the recurrent class of S_n. These are all the definitions we need to state our exact problem. Here it is.

Explicitly characterize the recurrent class of S_n in the following three cases:

(a) $d = 1$, $F =$ the two point distribution with $P(X_i = \pm 1) = \frac{1}{2}$

(b) $d = 2$, $F =$ the uniform distribution inside the unit two dimensional ball

(c) $d = 3$, $F =$ the trivariate standard normal, i.e., normal with mean vector zero and the identity covariance matrix.

Solution to Student Puzzle Corner 8

Anirban DasGupta writes: Well done to Yixin Wang (Columbia University) and Vivian Meng (McGill University), who provided correct solutions to the various parts of the problem. The problem asked was the following: suppose $X_1, X_2, \cdots, X_n$ are iid $N(\mu, \sigma^2)$

Yixin Wang (above) and Vivian Meng (below) submitted correct answers

where the mean μ is some unknown positive integer, and σ is a completely unknown standard deviation. We are to find the unique MLE of μ and σ^2, and show that the MLE of μ converges to the true μ exponentially fast and that the MLE of σ^2 is consistent.

Denote the likelihood function by $l(\mu, \sigma)$. Then, directly, whenever $\bar{x} \geq \frac{1}{2}$,

$$l(\mu + 1, \sigma) \geq l(\mu, \sigma) \Leftrightarrow \mu \leq [\bar{x} - \frac{1}{2}],$$

where $[z]$ stands for the integer part of z. Thus, for $\bar{x} \geq \frac{1}{2}$, the unique MLE of μ is $1 + [\bar{x} - \frac{1}{2}] = [\bar{x} + \frac{1}{2}]$; this is the same as the integer closest to the

unrestricted MLE $\bar{X}$, a very intuitive result. If $\bar{X} < \frac{1}{2}$, $l(\mu, \sigma)$ is monotone decreasing in μ over the set of positive integers, and in that case the MLE of μ is 1. By a standard calculus argument, once we have found the MLE $\hat{\mu}$ of μ, the MLE of σ^2 is $\hat{\sigma}^2 = \frac{1}{n} \Sigma_{i=1}^n (X_i - \hat{\mu})^2$.

To complete the solution, if the true $\mu > 1$,

$$P_\mu(\hat{\mu} = \mu) = P_\mu(\mu - \frac{1}{2} \leq \bar{X} \leq \mu + \frac{1}{2}).$$

The complementary probability, $P_\mu(\hat{\mu} \neq \mu)$ therefore is $2[1 - \Phi(\frac{\sqrt{n}}{2\sigma})]$, which is of the order of $\frac{e^{-\frac{n}{8\sigma^2}}}{\sqrt{n}}$.

This is a (somewhat faster than) exponential rate. The argument for the case $\mu = 1$ is exactly similar; the expression just needs a very small modification. Obviously, therefore, by the Borel–Cantelli lemma, with probability one, for all large n, $\hat{\mu} = \mu$. This means the MLE of σ^2 is in fact even strongly consistent, because $\frac{1}{n} \Sigma_{i=1}^n (X_i - \mu)^2$ converges a.s. to σ^2 by the usual SLLN.

IMS meetings around the world

Joint Statistical Meetings: 2015–2020

JSM 2015
August 8–13, 2015, Seattle, WA
w http://amstat.org/meetings/jsm/2015   *UPDATED*

IMS invited sessions include three **Wald Lectures** by Susan A. Murphy, the **Le Cam Lecture** by Jon Wellner (*previewed in this issue*), and four **Medallion Lectures**: Jiashun Jin, Michael Kosorok, John Lafferty and Nicolai Meinshausen. Also there's the **IMS Presidential Address** by Erwin Bolthausen.

2015 NISS/ASA/IMS Writing Workshop for Junior Researchers: Sunday 9 August & Wednesday 12 August at JSM   *NEW*

The National Institute of Statistical Science (NISS), the ASA, and the IMS will hold a writing workshop for junior researchers (subject to availability of funds). The goal of the workshop is to provide instruction in how to write journal articles and grant proposals. Participants will be required to provide a recent sample of their writing, which will be reviewed by a senior mentor. The sample could be a current draft of an article to be submitted for publication, or it could be an early version of a grant proposal. (Submission of the manuscript will be required as part of the registration process. Prior experience suggests that the best results come from submitting an early draft of something that is written solely or primarily by the participant.)

The mentors will be former journal editors and program officers, who will critique (a portion of) the submitted material. Individual feedback will be provided as part of the opening session, and participants will be expected to prepare a revision in response. The workshop will open with a one-day session of general instruction in effective writing techniques. It will continue with a half-day session for participants whose native language is not English and will close with discussion and debriefing at a follow-up lunch.

The full-day session is scheduled for Sunday, August 9, in Seattle, Washington at JSM. At the close of the formal activities, mentors will meet individually with participants to go over the writing samples they submitted. Each participant will then prepare a revision of a critiqued portion of the paper and return this to the mentor by Tuesday evening, August 11. Mentors and participants will meet again in conjunction with a lunch on Wednesday, August 12, to discuss the success of the revisions. The lunch program will also include general feedback to participants, mentors, and organizers. The half-day session for non-native English speakers will be held on the morning of Wednesday, August 12, and will include a continental breakfast.

Attendance will be limited and will depend on the number of mentors available. To apply, go to http://www.amstat.org/meetings/wwjr/registration/. Applications are due by June 1, 2015, and successful applicants will be notified by June 30. Applications received after June 1 will be considered if space is available. There is no fee for participation. Participants will receive lunch on the Sunday and Wednesday. *Participants must agree to attend the full Sunday session, the half-day Wednesday session, and the Wednesday lunch.* We have requested funding for partial travel support.

This workshop is designed for researchers with a recent PhD in either statistics or biostatistics. Top priority will go to those who have held the PhD for 0–3 years. Current PhD students who are completing their degree before the end of the summer and who will be at US institutions in the fall will also be considered. If space is available, researchers at institutions outside the US will be admitted to the workshop.

IMS sponsored meetings: JSM dates for 2016–2020

JSM 2016 **July 30–Aug 4, 2016,** **Chicago, IL**	**IMS Annual Meeting** **@ JSM 2017:** **July 29–August 3,** **2017, Baltimore, MD**	**JSM 2018** **July 28–August 2,** **2018** **Vancouver, Canada**	**IMS Annual Meeting** **@ JSM 2019** **July 27–August 1,** **2019, Denver, CO**	**JSM 2020** **August 1–6, 2020** **Philadelphia, PA**

IMS co-sponsored meeting
22nd ASA/IMS Spring Research Conference (SRC 2015)
May 20–22, 2015, Cincinnati, Ohio
w http://www.cvent.com/d/44qpkn

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 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 (deadline **April 1, 2015**). A number of $600 scholarships will be available to selected student and early career presenters. Details on the website, or contact the Contributed Program Chair, Byran Smucker, at smuckerb@miamioh.edu.

IMS co-sponsored meeting
Statistics and Exoplanets
August 3–5, 2015
Honolulu, Hawaii
w http://exostats.org

Statistics and Exoplanets is a Focus Meeting of the XXIX General Assembly of the International Astronomical Union (IAU); you will need to register for the IAU GA meeting in order to attend this meeting: see http://www.astronomy2015.org/. The meeting is sponsored by the International Statistical Institute, International Astrostatistics Association, Institute of Mathematical Statistics and the International Astronomical Union.

ENAR: 2016–2018
IMS sponsored meetings
March 6–9, 2016: in Austin, Texas

March 12–15, 2017: in Washington DC

March 25–28, 2018: in Atlanta, GA
w http://www.enar.org/meetings.cfm

IMS sponsored meeting
WNAR/IMS Annual Meeting
June 14–17, 2015 [PLEASE NOTE NEW DATES]
Boise State University, Boise, Idaho
w http://math.boisestate.edu/wnar2015/   *UPDATED*

The 2015 Western North American Region of The International Biometric Society (WNAR)/IMS Annual Meeting is in Boise, Idaho this year. It features a short course on *Modern Methods to Estimate Propensity Score Weights*, with instructors, by Dan McCaffrey and Matt Cefalu, RAND Corporation. The Presidential Invited Speaker on June 15 is Sudipto Banerjee, talking on "Statistics for Space, Time and Big Data".

Registration is open. The abstract submission deadline for Contributed Talks and the Student Paper Competition is April 24. Posters should be submitted by May 11.

17th IMS New Researchers Conference
August 6–8, 2015
University of Washington, Seattle, WA
w http://depts.washington.edu/imsnrc17/
e imsnrc17@uw.edu

The 17th IMS New Researchers Conference is hosted by the Department of Biostatistics at the University of Washington and will be held just prior to the 2015 JSM. The purpose of the conference is to promote interaction and networking among new researchers in probability and statistics. If you received a PhD in or after 2010, or expect to defend your thesis by the end of 2015, you are eligible to apply to attend. Due to limited space, participation is by invitation only. The application deadline was March 27, 2015.

IMS co-sponsored meeting
Fifth International Workshop in Sequential Methodologies (IWSM)
June 22–24, 2015
Columbia University, New York, NY
w TBC

IMS co-sponsored meeting
9th International Conference on Extreme Value Analysis: EVA 2015
June 15–19, 2015, Ann Arbor, Michigan
w http://sites.lsa.umich.edu/eva2015

The ninth international conference on Extreme Value Analysis will take place at the University of Michigan, Ann Arbor. It will feature recent research on the probability and statistics of extreme value phenomena and its important applications to climate and weather, finance, insurance, engineering and computer science. All students, researchers, practitioners, and scientists with interests in statistics of extremes are welcome. Abstracts are due February 27, 2015: see http://sites.lsa.umich.edu/eva2015/abstract-submission. Decisions on accepted talks/posters announced (by e-mail) by March 16, 2015. Registration is open now.

More IMS meetings around the world

IMS co-sponsored meeting
10th Conference on Bayesian Nonparametrics (BNP)
June 22–26, 2015
Raleigh, NC, USA

w https://stat.duke.edu/bnp10/

BNP is an official section meeting of the ISBA's Bayesian nonparametrics section. Abstract submission is open posters (deadline May 1, 2015 or until max capacity reached, whichever is earlier).

IMS members are eligible for a **discount on registration**: drop an email to Elyse Gustafson, erg@imstat.org, to ask for your discount code, which you can then enter when registering at http://bayesian.org/civicrm/event/info?reset=1&id=33. (Click "Register Now", then on the next screen "Enter Code:" and click "Apply" for the discount to appear. Note you cannot receive two discounts if you are both an IMS and ISBA member!)

IMS co-sponsored meeting
International Symposium in Statistics (ISS) 2015
July 6–8, 2015, Memorial University, St. John's, Canada

w http://www.iss-2015-stjohns.ca/

The ISS-2015, on *Parametric and Semi-parametric Inferences for Spatial-temporal, and Multi-dimensional Familial-longitudinal Data,* is planned to discuss the methodological advances and challenges in the analysis of continuous and discrete correlated data both in parametric and semi-parametric setup.

The main topics of interest of this symposium are:

- Multivariate analysis in a wider non-normal elliptical distribution setup;
- Multivariate analysis for longitudinal categorical data;
- Time series volatility models;
- Spatial-temporal data analysis;
- Familial longitudinal data analysis in semi-parametric setup.

It is also of interest to discuss further challenges in analysis when data may contain measurement errors, missing values, and/or outliers, for example. The scientific program will include keynote, special invited, invited, and contributed paper sessions.

IMS co-sponsored meeting
9th World Congress on Probability and Statistics
July 11–15, 2016, Toronto, Canada

w http://www.fields.utoronto.ca/programs/scientific/16-17/WC2016/

This meeting is jointly sponsored by the Bernoulli Society and the IMS. The Scientific Programme Chair is Alison Etheridge. The Local Chair is Tom Salisbury.

IMS co-sponsored meeting
2015 Workshop on Finance, Insurance, Probability and Statistics (FIPS 2015)
June 25–27, 2015
Rutgers Student Center, New Brunswick, New Jersey

w http://www.fsrm.rutgers.edu/fips2015

The primary purpose of the workshop is to bring together a global cast of leading academic experts, practitioners and junior researchers to share research that underscores the contributions of Probability and Statistics to the development of quantitative models, methods, techniques and technologies in the fields of Finance and Insurance.

IMS co-sponsored meeting
INFORMS Applied Probability Society Conference 2015
July 5–8, 2015, Istanbul, Turkey

w TBC

The next APS meeting will be held at the Koç University campus (Istanbul, Turkey) on July 5–8, 2015. Details to follow.

IMS sponsored meeting
2015 IMS-China Conference on Statistics and Probability
July 1–4, 2015
Kunming, Yunnan, P. R. China

w http://www.2015imschina.com

Contact: Qiwei Yao **e** q.yao@lse.ac.uk

The fifth IMS-China International Conference on Statistics and Probability will be held in Kunming, China, from July 1–4, 2015. Its scientific program will cover a wide range of topics in probability, statistics and their related areas. The conference will also provide an excellent forum for scientific exchanges and for forging new research collaborations.

IMS co-sponsored meeting
2015 European Meeting of Statisticians
July 6–10, 2015
Amsterdam, The Netherlands

w http://ems2015.nl/

The European Meeting of Statisticians (EMS) is the main conference in statistics and probability in Europe. It is organized in a roughly two-yearly schedule and is sponsored by the European Regional Committee of the Bernoulli Society. The program consists of invited and contributed lectures, and posters, addressing a full range of subjects in statistics and its many applications.

The conference will be held at the campus of the VU University Amsterdam, from Monday, July 6 to Friday, July 10, 2015.

IMS co-sponsored meeting
Network Data: Information and Sciences   NEW
April 10–11, 2015, Davis, California, USA

w http://www.stat.ucdavis.edu/symposium2015/

IMS Reps on Program Committees: Debashis Paul, Hao Chen

The Department of Statistics will host a workshop that will serve as a forum to discuss recent developments in network data, its analysis, computational and inferential challenges and applications to various disciplines including neuroscience, genomics, social sciences, ecology and environmental sciences and complex systems. It will take place on the campus of the University of California, Davis (Buehler Alumni Center, Room AGR), and is scheduled for Friday April 10 to Saturday April 11, 2015. Registration is free, but required: see the website.

IMS co-sponsored meeting
38th Conference on Stochastic Processes and their Applications
July 13–17, 2015, Oxford, UK

w http://spa2015.oxford-man.ox.ac.uk

The 38th Conference on Stochastic Processes and their Applications (SPA) will take place in Oxford, UK, from July 13–17, 2015. The conference is hosted by the Oxford-Man Institute of Quantitative Finance, the Mathematical Institute and the Department of Statistics, and is co-sponsored by IMS and the Bernoulli Society.

Plenary speakers: The plenary speakers include two **Medallion lectures**, from Grégory Miermont and Scott Sheffield; a **Schramm Lecture** from Michel Ledoux; and a **Doob Lecture** from Terence Tao. The full list is: Alan Hammond, Grégory Miermont (IMS Medallion Lecture), Alexei Borodin, Michael Cranston (Itô Prize Lecture), Bénédicte Haas, Haya Kaspi, Michel Ledoux (Schramm Lecture), Régine Marchand, Jason Miller, Sandrine Péché, Scott Sheffield (IMS Medallion Lecture, Christophe Sabot, Andrew Stuart, Terence Tao (Doob Lecture), Augusto Teixeira, Boris Tsirelson (Lévy Lecture).

Discount for IMS members: Registration is open, and IMS members get a **discounted** rate. To obtain the preferential delegate rate for IMS Academic Members (£284.00) and IMS Student Members (£210.00), please use the code **SPAIMS** when registering.

IMS co-sponsored meeting
ISNPS Meeting
Biosciences, Medicine, and novel Non-Parametric Methods
July 12–15, 2015, Graz, Austria

w http://www.medunigraz.at/imi/isnps2015/index.php

The ISNPS (International Society of Non-Parametric Statistics) conferences take place biennially. After the very successful Second ISNPS Conference 2014 in Cádiz, Spain, it was decided to have a meeting every other year dedicated to a special topic. For 2015 this topic is "Biosciences, Medicine and novel Non-Parametric Methods". The ISNPS Meeting will take place immediately after the European Meeting of Statisticians in Amsterdam. It is hosted by the Institute for Medical Informatics, Statistics and Documentation of the Medical University of Graz in the city of Graz, Austria. The scientific meeting will be reminiscent of a workshop because of many plenary activities and opportunities to informally discuss novel, controversial or educational topics with respect to new methodologies and applications. Each day there will be one keynote speaker (TBC) introducing a special non-parametric or data problem followed by shorter related presentations and discussion.

IMS co-sponsored meeting
The 4th Workshop on Biostatistics and Bioinformatics
May 8–10, 2015, Atlanta, GA

http://www2.gsu.edu/~matyiz/2015workshop/

IMS Representative(s) on Program Committees: Yichuan Zhao

Biostatistics and Bioinformatics have been playing key and important roles in statistics and other scientific research fields in recent years. The goal of this workshop is to stimulate research and to foster the interaction of researchers in Biostatistics & Bioinformatics research areas. The workshop will provide the opportunity for faculty and graduate students to meet the top researchers, identify important directions for future research, facilitate research collaborations.

The keynote speaker is Xiao-Li Meng, Harvard University. Invited Speakers: Jianwen Cai, University of North Carolina; Michael Epstein, Emory University; Liang Liu, University of Georgia; Robert Lyles, Emory University; Chris McMahan, Clemson University; Bin Nan, University of Michigan; Annie Qu, University of Illinois; Yiyuan She, Florida State University; Yu Shyr, Vanderbilt University; Dylan Small, University of Pennsylvania; Wei Wu, Florida State University; Ying Xu, University of Georgia; Daowen Zhang, North Carolina State University; Jiajia Zhang, University of South Carolina.

Partial travel support for young researchers and under-represented groups is available: see the website for details of how to apply.

Registration, invited talks and poster presentations will be accepted up to April 30, 2015. See the website for instructions.

The workshop is sponsored by IMS, the National Science Foundation, International Chinese Statistical Association (ICSA), and the Department of Mathematics and Statistics in the GSU.

The Institute of Mathematical Statistics presents

IMS TEXTBOOKS
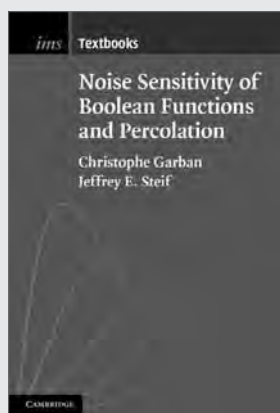
Noise Sensitivity of Boolean Functions and Percolation

by **Christophe Garban,** Ecole Normale Supérieure, Lyon, and **Jeffrey E. Steif,** Chalmers University of Technology, Gothenberg

This is a graduate-level introduction to the theory of Boolean functions, an exciting area lying on the border of probability theory, discrete mathematics, analysis, and theoretical computer science. Certain functions are highly sensitive to noise; this can be seen via Fourier analysis on the hypercube. The key model analyzed in depth is critical percolation on the hexagonal lattice. For this model, the critical exponents, previously determined using the now-famous Schramm–Loewner evolution, appear here in the study of sensitivity behavior. Even for this relatively simple model, beyond the Fourier-analytic set-up, there are three crucially important but distinct approaches: hypercontractivity of operators, connections to randomized algorithms, and viewing the spectrum as a random Cantor set. This book assumes a basic background in probability theory and integration theory. Each chapter ends with exercises, some straightforward, some challenging.

Other meetings around the world

2015 Annual Joint CCF/CWRU/OSU Biostatistics Symposium *NEW*
April 20, 2015
Cleveland, Ohio, USA

w http://casemed.case.edu/events/BiostatisticsSymposium/
This year's symposium features outstanding speakers Professors Marie Davidian (NCSU, Keynote Speaker), Jeff Albert (CWRU), Sebastian Kurtek (OSU), and Jarrod Dalton (CCF).

The Dynamical Systems, Ergodic Theory, and Probability Conference
Dedicated to the memory of Nikolai Chernov
May 18–20, 2015, Birmingham, Alabama, USA

w http://people.cas.uab.edu/~ablokh/c-c-2015/
The conference will include three parallel sessions (Dynamical Systems, Ergodic Theory, Probability) and plenary talks by Leonid Bunimovich (Georgia Tech), Dmitry Dolgopyat (University of Maryland), Anatole Katok (Penn State), Konstantin Khanin (Toronto), Joel Lebowitz (Rutgers), Russell Lyons (Indiana University, Bloomington), Roberto Markarian (Uruguay), Yakov Pesin (Penn State), Nandor Simanyi (UAB), Domokos Szasz (Hungary).

ABS15 - 2015 Applied Bayesian Statistics School on *NEW*
Modern Bayesian Methods and Computing for the Social Sciences
June 8–12, 2015
Villa del Grumello, Como, Italy

w http://www.mi.imati.cnr.it/conferences/abs15.html
Lecturer: Jeff Gill, Washington University, St. Louis, MO, USA

This course covers the theoretical and applied foundations of Bayesian statistical analysis with an emphasis on computational tools for Bayesian hierarchical models. We will discuss model checking, model assessment, and model comparison. The course will cover Bayesian stochastic simulation (Markov chain Monte Carlo) in depth with an orientation towards deriving important properties of the Gibbs sampler and the Metropolis Hastings algorithm. Extensions and hybrids will be discussed. We will then use Markov chain Monte Carlo tools to fit linear and nonlinear specifications with multiple levels, longitudinal features, and non-normal distributional assumptions. Lectures will include theoretical discussions of modeling and estimation as well as practical guidance for fitting complex multilevel models with R and JAGS software. Applications will be drawn from political science, sociology, epidemiology, economic policy, and public administration. Participants are expected to understand linear regression in matrix algebra terminology, have some exposure to R, and know basic statistical inference.

Random walks on graphs and potential theory *NEW*
May 18–27, 2015
Coventry, UK

w http://www2.warwick.ac.uk/fac/sci/maths/research/events/2014-15/nonsymposium/random/
Random walks on graphs are studied in many contexts, including analysis, computer science, group theory, and of course probability and graph theory. This meeting will gather experts from all these fields, in order to emphasize the breadth of the topic and facilitate interactions.

Third Euro Congress and Expo on Dental & Oral Health *NEW*
June 16–18, 2015
Alicante, Spain

w http://dentalcongress.com/europe/
Contact: Sophie Lena w eurodentalcongress@omicsgroup.com
The Third Euro Congress on Dental & Oral Health, June 16–18, 2015 in Alicante, Spain, on "Exploring the Possibilities in Shaping the Future of Dental & Oral Health" is organized by OMICS International. To improve oral health outcomes, dental practitioners and service systems need to expand their focus to address, in a systematic way, population health issues such as the promotion of a dentally healthy lifestyle and behaviors, and the early identification and treatment of oral health problems. This requires a greater team approach within dental practice, involving general and specialists dentists and other oral health practitioners. So the conference will be helpful to review these assumptions with evidence that there are a number of opportunities to make better use of the various members of the oral health workforce.

GDRR 2015: Fourth Symposium on *NEW*
Games and Decisions in Reliability and Risk
June 17–19, 2015
Point Hotel, Istanbul, Turkey

w http://www.maoner.com/GDRR-2015.htm
The objective of the symposium is to present novel use of game and decision theory in reliability and risk analysis and to bring together researchers from diverse disciplines such as economics, engineering, finance, mathematics, medical sciences, probability and statistics who find themselves working with, and contributing to this theme.

More meetings around the world

BISP9: Ninth Workshop on Bayesian Inference in Stochastic Processes
June 14–16, 2015
Point Hotel, Istanbul, Turkey

w http://www.maoner.com/bisp9.htm

This workshop will provide an opportunity to review, discuss and explore directions of development of Bayesian inference in stochastic processes and in the use of stochastic processes for Bayesian inference. The workshop will encourage discussion and promote further research in these fields. Theoretical and applied contributions are both welcome. A non-exhaustive list of topics includes Markov processes, state-space models, spatial, empirical, birth-death and branching processes, queueing, population modelling, signal processes, stochastic differential equations. The Workshop will thus be of interest to researchers and workers in both Bayesian inference and stochastic processes.

NIMBioS Investigative Workshop: Many-cell System Modeling
July 7–9, 2015
Knoxville, Tennessee, USA

w http://www.nimbios.org/workshops/WS_manycell.html

This workshop will bring together modelers, computer scientists and scientific computing experts to discuss state of the art modeling and simulation of many-cell living systems. Participants will learn from shared experiences, match methodologies to modeling problems, and match skills to modeling challenges. Workshop results and the new relationships formed will serve as a foundation for future work in addressing the challenges of moving from small-scale multicellular models to modeling whole organisms and communities.

LMS-CMI Research School: Developments in Modern Probability
July 5–10, 2015
Oxford, UK

w http://www.stats.ox.ac.uk/events/lms-cmi_research_school

The principal aim of the LMS-CMI Research School is to provide training and preparation for young researchers working both in Britain and further afield, many of whom will be attending **SPA2015** the following week. The subjects of the courses represent some of the most exciting areas of current research in probability, and have been chosen to tie in with a subset of the plenary lectures for SPA.

Greek Stochastics Meeting
July 11–13, 2015
Chania, Crete, Greece

w http://www.stochastics.gr/meetings/eta/index.html

The meeting's primary aim is to facilitate a broad discussion of current research themes related to Sequential and On-line Learning. It will consist of three short courses by Gabor Lugosi (Universitat Pompeu Fabra), Phil Dawid (University of Cambridge) and Nicolas Chopin (ENSAE, Paris). There will also be a few contributed talks and poster presentations.

useR! 2015
July 1–3, 2015
Aalborg, Denmark

w http://user2015.math.aau.dk

Contact: Torben Tvedebrink e tvede@math.aau.dk

The annual useR! conference will be held in Aalborg, Denmark. The list of invited speakers consists of Thomas Lumley (R Core, survey), Adrian Baddeley (spatstat), Steffen Lauritzen (gRaphical models), Di Cook (GGobi), Romain Francois (Rcpp) and Susan Holmes (phyloseq). We call for abstracts on any R-related matter. The day prior to the conference, 16 half-day R tutorials are offered free of charge to the participants on Tutorial Tuesday. Registration is open!

NIMBioS Tutorial: Evolutionary Quantitative Genetics
August 4–9, 2015, Knoxville, Tennessee

w http://www.nimbios.org/tutorials/TT_eqg

Quantitative genetic theory has been applied to a wide range of phenomena including the evolution of differences between the sexes, sexual preferences, life history traits, plasticity of traits, as well as the evolution of body size and other morphological measurements. This tutorial is for evolutionary biologists interested in how quantitative genetics theory can be tested with data, both from single species and with multiple-species phylogenies. Participants – graduate students, postdocs, and junior faculty – will learn how to use R to build and test evolutionary models. There is a need for evolutionary biologists to understand the field of evolutionary quantitative genetics because of the ability to collect large amounts of data by computer, the development of statistical methods for changes of traits on evolutionary trees and for changes in a single species through time, and the realization that quantitative characters will not soon be fully explained by genomics.

Seventh Global Summit on Cancer Therapy
October 5–7, 2015
Dubai, UAE

w http://cancer.global-summit.com/middleeast/

Contact: Celina Crystal **e** cancermiddleeast@conferenceseries.net

Cancer Middle East 2015 is an extraordinary event designed for international medical health professionals and oncologists to facilitate the dissemination and application of research findings related to cancer. The conference invites participants from all leading universities, clinical research institutions and diagnostic companies to share their research experiences on all aspects of this rapidly expanding field and thereby provide a showcase of the latest techniques.

AMISTAT 2015 (Analytical Methods in Statistics)
November 10–13, 2015
Prague, Czech Republic

w http://www.karlin.mff.cuni.cz/~amistat2015/

This workshop follows the successful AMISTAT 2011. It is an opportunity to meet, exchange ideas and discuss topics on solved and unsolved problems of mathematical statistics, among others concerning:

- Fisher information
- parameter and function estimation
- characterization problems
- sufficiency, ancillarity and exponential families
- generalized linear models
- signal plus noise models
- stochastic inequalities
- asymptotics versus non-asymptotics
- and other related subjects of your recent interests.

71st Annual Deming Conference on Applied Statistics
December 6–11, 2015
Atlantic City, New Jersey

w www.demingconference.com

Contact: Walter Young **e** demingchair@gmail.com

The program will be available on the website by June 1st and online registration opens in August. The conference provides a learning experience on recent developments in statistical methodologies. The three-day conference is followed by two parallel two-day short courses. The conference has 12 three-hour tutorials on current applied statistical topics. The books, on which these sessions are based, are available for sale at a about a 40% discount. Walter Young has chaired for 45 consecutive years.

⧉ Applied Probability Trust: Special Volume Announcement

The Applied Probability Trust is pleased to announce the publication of the *Journal of Applied Probability* special volume

Celebrating 50 years of the Applied Probability Trust

Edited by
S. Asmussen, P. Jagers, I. Molchanov and L. C. G. Rogers

This special volume appears in celebration of the fiftieth anniversary of both the Trust and *Journal of Applied Probability*. It contains an account of the Trust's history and activities written by Joe Gani and some historical reflections on applied probability by John Kingman. It also includes the 2014 Applied Probability Trust Lectures given by Dan Crisan and Alexander Gnedin at the jubilee event held at The University of Sheffield in April. The body of the volume consists of a number of invited papers by eminent researchers in applied probability and covers topics such as biological applications, finance and econometrics, heavy tails, Markov processes and renewal theory, random graphs, particle systems, and stochastic geometry.

The volume is available open access, with hardback copies available for £35.00/US$56.00/A$64.00. Please visit the Trust's Webpage for further details.

http://www.appliedprobability.org
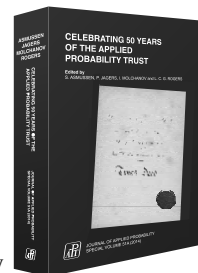
Employment Opportunities around the world

Chile: Concepción

Universidad de Concepción, Ingeniería Matemática

Tenure track positions

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22774970

Hong Kong

The Hong Kong University of Science and Technology

Faculty Positions in Data Science

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22606618

Kazakhstan: Astana

Nazarbayev University

Associate/Full Professor

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22707473

New Zealand: Wellington

Victoria University of Wellington

Lecturer/Senior Lecturer in Statistics (equivalent to Assistant / Associate Professor in the North American academic system)

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=21985242

New Zealand: Wellington

Victoria University of Wellington

Statistical Consultant (2 year fixed term)

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22728985

United Kingdom: Glasgow

University of Glasgow

International readership

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22222251

United States: Davis, CA

University of California, Davis, Department of Statistics

Lecturer

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=20869251

United States: Berkeley, CA

University of California, Berkeley, Department of Statistics

Neyman Visiting Assistant Professor

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=21959721

United States: Atlanta, GA

Georgia State University

Visiting Faculty

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22236140

United States: Iowa City, IA

University of Iowa, College of Public Health

Head, Department of Biostatistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22256699

United States: Laurel, MD

FDA: Center for Veterinary Medicine

Biostatistician

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22751809

United States: Lincoln, NE

University of Nebraska Lincoln

Tenure track assistant professor in statistics

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=21984646

United States: Ithaca, NY

Cornell University

Faculty Positions - ORIE

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22628249

United States: Houston, TX

Rice University, Department of Statistics

Postdoctoral Fellow

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22387830

United States: Charlottesville, VA

University of Virginia, Department of Statistics

Postdoctoral Fellow and Lecturer

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22707657

United States: Seattle, WA

Fred Hutchinson Cancer Research Center

Post-Doctoral Research Fellow - High Dimensional Single-Cell Data Analysis

http://jobs.imstat.org/c/job.cfm?site_id=1847&jb=22597122

International Calendar of Statistical Events

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

April 2015

April 8–10: NIMBioS, Knoxville, Tennessee, USA. **Information and Entropy w** http://www.nimbios.org/workshops/WS_entropy

NEW *ims* April 10–11: Davis, CA. **Network Data: Information and Sciences w** http://www.stat.ucdavis.edu/symposium2015/

April 13–17: Toronto, Canada. Workshop on Big Data for Social Policy [*Fields Big Data program*] **w** www.fields.utoronto.ca/programs/scientific/14-15/bigdata

NEW April 20: Cleveland, OH. **2015 Annual Joint CCF/CWRU/OSU Biostatistics Symposium w** http://casemed.case.edu/events/BiostatisticsSymposium/

April 24–25: Storrs, CT, USA. **The 29th New England Statistics Symposium w** http://merlot.stat.uconn.edu/ness15

May 2015

May 4–8: Montreal, Quebec, Canada **Statistical and Computational Challenges in Networks and Cybersecurity w** http://www.crm.umontreal.ca/2015/Challenges15/index_e.php

ims May 8–10: Atlanta, GA. **The 4th Workshop on Biostatistics and Bioinformatics w** http://www2.gsu.edu/~matyiz/2015workshop/

May 11–15: Coventry, UK **Topics in renormalisation group theory and regularity structures w** http://www2.warwick.ac.uk/fac/sci/maths/research/events/2014-15/nonsymposium/trgtrs

May 15–17: Bloomington, Indiana. Seymour Sherman Lecture and Conference **w** http://pages.iu.edu/~rdlyons/sherman/2015.html

May 18–20: Birmingham, AL, USA **The Dynamical Systems, Ergodic Theory, and Probability Conference: Dedicated to the Memory of Nikolai Chernov w** http://people.cas.uab.edu/~ablokh/c-c-2015/

NEW May 18–27: Coventry, UK. **Random walks on graphs and potential theory w** http://www2.warwick.ac.uk/fac/sci/maths/research/events/2014-15/nonsymposium/random/

May 18–29: Singapore. **Workshop on New Directions in Stein's Method w** http://www2.ims.nus.edu.sg/Programs/015wstein/

ims May 20–22: Cincinnati, Ohio. **22nd ASA/IMS Spring Research Conference (SRC 2015) w** http://www.cvent.com/d/44qpkn

May 21–22: Athens, Greece. 4th International Conference on Quantitative and Qualitative Methodologies in the Economic and Administrative Sciences **w** https://sites.google.com/site/icqqmeas2015/

May 26–28: Haikou, Hainan, China. **24th International Workshop on Matrices and Statistics (IWMS-2015) w** http://iwms2015.csp.escience.cn/dct/page/1

May 26–29: Varna, Bulgaria. HiPMoS 2015: High Performance Modelling and Simulation 2015 (special session on ProbStat) **w** https://www.dem.unina2.it/hipmos/

May 31–June 5: Ascona, Switzerland. **Workshop on Statistical Learning of Biological Systems from Perturbations w** http://www.cbg.ethz.ch/news/ascona2015

June 2015

June 7–10: Oslo, Norway. **Colloquium of the International Actuarial Association w** http://www.actuaries.org/oslo2015

NEW June 8–12: Villa del Grumello, Como, Italy. **ABS15 - 2015 Applied Bayesian Statistics School on Modern Bayesian Methods and Computing for the Social Sciences w** http://www.mi.imati.cnr.it/conferences/abs15.html

June 8–12: Castro Urdiales, Spain **Methodological advances in Statistics related to BIG DATA w** http://www.imuva.uva.es/workshopbigdata/

International Calendar *continued*

June 2015 *continued*

June 13–14: Toronto, Canada. Closing Conference [*Fields Big Data program*] at AARMS of Dalhousie University. **w** www.fields.utoronto.ca/programs/scientific/14-15/bigdata

NEW **June 14–16:** Istanbul, Turkey. **BISP9: Ninth Workshop on Bayesian Inference in Stochastic Processes w** http://www.maoner.com/bisp9.htm

UPDATED ims **June 14–17 [NOTE NEW DATES]:** Boise State University, ID, USA. **2015 WNAR/IMS Annual Meeting w** http://math.boisestate.edu/wnar2015/ **[please note new website address]**

June 15–19: Aarhus, Denmark. Aarhus Conference on Probability, Statistics and Their Applications **w** http://thiele.au.dk/events/conferences/2015/aarhus/

ims **June 15–19:** Ann Arbor, Michigan. **9th International Conference on Extreme Value Analysis: EVA 2015 w** http://sites.lsa.umich.edu/eva2015

NEW **June 16–18:** Alicante, Spain. **Third Euro Congress and Expo on Dental & Oral Health w** http://dentalcongress.com/europe/

NEW **June 17–19:** Istanbul, Turkey. **GDRR 2015: Fourth Symposium on Games and Decisions in Reliability and Risk w** http://www.maoner.com/GDRR-2015.htm

ims **June 22–24:** Columbia University, New York, NY. **Fifth International Workshop in Sequential Methodologies (IWSM) w** TBC

June 22–25: NIMBioS, Knoxville, TN. **Research Collaboration Workshop for Women in Mathematical Biology w** http://www.nimbios.org/education/WS_wwmb.html

ims **June 22–26:** Raleigh, NC, USA. **10th Conference on Bayesian Nonparametrics w** https://stat.duke.edu/bnp10/

ims **June 25–27:** Rutgers Student Center, New Brunswick, NJ. **2015 Workshop on Finance, Insurance, Probability and Statistics (FIPS 2015) w** http://www.fsrm.rutgers.edu/fips2015

June 29–July 2: Athens, Greece. **9th Annual International Conference on Statistics w** http://www.atiner.gr/statistics.htm

June 29–July 2: Athens, Greece. **1st Annual International Conference on Formal Sciences w** http://athensformal.com

June 30–July 2: Leeds, UK **Leeds Annual Statistical Research Workshop w** http://www1.maths.leeds.ac.uk/statistics/workshop/lasr2015/

June 30–July 4: Piraeus, Greece. **16th Applied Stochastic Models and Data Analysis International Conference (ASMDA) w** http://www.asmda2015.com

July 2015

NEW July 1–3: Aalborg, Denmark. **useR! 2015 w** http://user2015.math.aau.dk

July 1–4: Kunming, Yunnan, P. R. China. **2015 IMS-China International Conference on Statistics and Probability w** http://www.2015imschina.com

July 5–8: Istanbul, Turkey. **INFORMS Applied Probability Society Conference 2015 w** TBC

NEW July 5–10: Oxford, UK. **LMS-CMI Research School: Developments in Modern Probability w** http://www.stats.ox.ac.uk/events/lms-cmi_research_school

July 6–8: Memorial University, St John's, Canada. **International Symposium in Statistics (ISS 2015):** Parametric and Semi-parametric Inferences for Spatial-temporal, and Multi-dimensional Familial-longitudinal Data. **w** http://www.iss-2015-stjohns.ca

July 6–10: Amsterdam, The Netherlands. **2015 European Meeting of Statisticians w** http://ems2015.nl/

July 6–10: Columbus, OH, USA **Spatially-varying stochastic differential equations, with application to the biological sciences w** http://mbi.osu.edu/event/?id=904

NEW July 7–9: Knoxville, TN, USA. **NIMBioS Investigative Workshop: Many-cell System Modeling w** http://www.nimbios.org/workshops/WS_manycell.html

NEW July 11–13: Chania, Crete. **Greek Stochastics Meeting w** http://www.stochastics.gr/meetings/eta/index.html

July 12–15: Graz, Austria. **Biosciences, Medicine and Novel Non-parametric Methods w** www.medunigraz.at/imi/isnps2015/

NEW July 13–17: Oxford, UK. **38th Conference on Stochastic Processes and Applications w [please note new website address]** http://spa2015.oxford-man.ox.ac.uk

July 20–24: Pescara, Italy. ISIPTA'15 (9th International Symposium on Imprecise Probability: Theories and Applications) **w** http://www.sipta.org/isipta15

July 26–31: Rio de Janeiro, Brazil. **2015 ISI World Statistics Congress w** http://www.isi2015.ibge.gov.br/

August 2015

August 3–5: Honolulu, HI. **Statistics and Exoplanets w** http://exostats.org

NEW August 4–9: Knoxville, TN, USA. **NIMBioS Tutorial: Evolutionary Quantitative Genetics w** http://www.nimbios.org/tutorials/TT_eqg

August 5–8: Washington DC **MAA MathFest w** http://www.maa.org/100

NEW August 6–8: Seattle, WA. **17th IMS New Researchers Meeting w** http://depts.washington.edu/imsnrc17/

August 8–13: Seattle, WA. **IMS Annual Meeting at JSM 2015. w** http://amstat.org/meetings/jsm/2015

August 10–14: Beijing, China. **8th International Congress of Industrial and Applied Mathematics w** http://www.iciam2015.cn/

August 23–27: Utrecht, The Netherlands **36th Annual Conference of the International Society for Clinical Biostatistics w** http://www.iscb2015.info/

September 2015

September 2–5: Hyderabad, India **IXth International Multiple Comparisons Procedures (MCP) Conference w** http://www.mcp-conference.org/hp/2015/

September 21–25: Vienna, Austria. **8th International Workshop on Simulation w** http://iws.boku.ac.at/index.php

International Calendar *continued*

September 2015 *continued*

September 26: Harvard University, Cambridge, MA, USA **2015 New England Symposium on Statistics in Sports w** http://www.nessis.org/

October 2015

NEW October 5–7: Dubai, UAE. **Seventh Global Summit on Cancer Therapy w** http://cancer.global-summit.com/middleeast/

November 2015

NEW November 10–13: Prague, Czech Republic. **AMISTAT 2015 (Analytical Methods in Statistics) w** http://www.karlin.mff.cuni.cz/~amistat2015/

December 2015

NEW December 6–11: Atlantic City, NJ, USA. **71st Annual Deming Conference on Applied Statistics w** www.demingconference.com

March 2016

ims March 6–9: Austin, Texas. **2016 ENAR/IMS Spring Meeting w** http://www.enar.org/meetings.cfm

June 2016

June 20–23: Geneva, Switzerland. **ICES-V, the 5th International Conference on Establishment Statistics w** TBC

June 20–24: University of California at San Diego. **Stochastic Networks Conference w** TBD

July 2016

ims July 11–15: Toronto, ON, Canada. **IMS Annual Meeting at 9th**

World Congress in Probability and Statistics w http://www.fields.utoronto.ca/programs/scientific/16-17/WC2016/

ims July 30 – August 4: Chicago, USA. **JSM 2016 w** http://amstat.org/meetings/jsm/

July 2017

ims July 29 – August 3: Baltimore, USA. **IMS Annual Meeting at JSM 2017 w** http://amstat.org/meetings/jsm/

July 2018

ims July 28 – August 2: Vancouver, Canada. **JSM 2018 w** http://amstat.org/meetings/jsm/

July 2019

ims July 27–August 1: Denver, CO, USA. **IMS Annual Meeting at JSM 2019 w** http://amstat.org/meetings/jsm/

August 2020

ims August 1–6: Philadelphia, PA, USA. **JSM 2020 w** http://amstat.org/meetings/jsm/

Are we missing something? If you know of any statistics or probability meetings which aren't listed here, please let us know.
You can email the details to Elyse Gustafson at **erg@imstat.org**, or you can submit the details yourself at **http://www.imstat.org/submit-meeting.html**
We'll list them here in the Bulletin, and on the IMS website too, at **www.imstat.org/meetings**

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4:	June/July	**May 1**	May 15	June 1
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