

# Bernoulli NEWS

Newsletter of the Bernoulli Society for Mathematical Statistics and Probability

## SOME HIGHLIGHTS FROM THIS ISSUE:

*Some thoughts at the turn of the millennium*

*Society News*

*Bernoulli Society 2000*

*Reports on Recent Activities*

*Research Centers*

*Conferences*

*Forthcoming BS Events*

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# 1. Some thoughts at the turn of the millennium

## About Theory and Practice

On the occasion of the *Workshop on Mathematical Finance* in Strobl and Vienna (September 13–18, 1999), ALFRED NIKOLAEVICH SHIRYAEV recalled Chebyshev’s view on Theory and Practice. We print the introduction of Alfred Nikolaevich’s talk:

Not so long before his death, the great mathematician P. L. Chebyshev (1821–1894) stated (half-seriously) his opinion on the relations between *theory* and *practice*.

“Mathematics,” he said, “has lived through two eras. In the first, problems were set by *gods* (the Delian problem of cube duplication) and in the second by *demi-gods* (Pascal, Fermat). We have now entered the third period, when the *necessity* sets problems.”

Moreover, Chebyshev was sure that the more difficult was a ‘naturally’ grown problem arisen in a natural way, the more fruitful would be the methods used for its solution and the more extended the range of their subsequent applications in other areas. Unity of theory and practice was the crucial feature of his mathematical research, and he formulated very vividly the basic principle of this unity in his speech “Drawing geographic maps” delivered 1856 before a big meeting at the St. Petersburg University.

“Mathematical sciences,” Chebyshev says, “attract particular attention since distant ages; recently they have become even more important thanks to their influence on the art and the industry. Convergence of the theory and the practice brings about most beneficial results and practice is not the sole beneficiary here: sciences themselves develop further under its influence; it suggests them new subjects for study or reveals novel sides of subjects already well known.

Human activities are extremely varied and, of course, to meet all their demands the science lacks many tools and various methods. Of a particular significance are methods required for the solution of many versions of one problem that is common for all human practices:

*How can one manage one’s means to obtain possibly larger gains?*

Solution of this kind of problems is the subject of the so-called theory of *minimum* and *maximum* values. These problems are extremely important also for the theory: all the laws governing the motion of matter, weighable or weightless, are solutions of such problems. Their particularly beneficial impact on the development of mathematical sciences is only too evident.”

At the end of the speech Chebyshev underlines that a “large portion of practical questions can be stated in the form of problems of maximum and minimum values that is entirely new for the science. Only the solution of these problems can satisfy the requests of practice, which is always in search of *the best and the most efficient*.”

*Shiryayev, Moscow*

*Alfred N. Shiryayev in Strobl (Austria)*

## 2. Society News

### Louis Chen at the General Assembly of the Bernoulli Society in Helsinki

“It has been four years since I became a member of the Executive Committee of the Bernoulli Society, first as President-Elect and then as President. This is a long period of involvement, and it has given me an opportunity to see the Society grow in strength, understand its working and develop a deep attachment to it. I have been impressed by the dedication of many of the officers and those working for the Society, and by the professionalism with which they performed their tasks and discharged their responsibilities. This has been an eye-opening and enriching experience for me.

As I look back, two events and the consequences they have brought upon the Society left a deep impression on me. These were events beyond our control, but in the process of grappling with their implications, we have either instituted measures which in the long run would be beneficial to the Society or else we have become even more determined to overcome the difficulties.

The first event was the acquisition of Chapman & Hall by Kluwer, which came to our knowledge suddenly in 1998. The resulting concern over the prospect of a sharp price increase of the BERNOULLI journal led to a take-over of the publication of the journal from the commercial publishers by ISI and the Society. The passage leading to this outcome has not been an easy one. But it was in a right direction, and is beginning to have wider repercussions.

The second event was the sudden onset of the financial crisis in East Asia, not long after a new East Asian and Pacific Regional Committee was formed in Istanbul in August 1997. The crisis brought tremendous hardship to the organizers of the conferences in Taejon, Korea and Hanoi, Vietnam, which had been planned for April 1998 and June 1999 respectively. But it did not affect their efforts or determination, nor did it in any way dent the enthusiasm of the statistical community in the East Asia-Pacific Region. In the end, the conferences took place as planned and were a great success. Encouraged by the success, probabilists and statisticians in the region look forward to more conferences and continuing activities of the East Asian and Pacific Regional Committee.

The above developments are signs of strengthening and maturing of the Bernoulli Society, and they augur well for the Society as it moves into the twenty-first century.

It now remains for me to thank all those who have in one way or another served and contributed to the Society during my term as President. Specifically, I would like to thank all the conference organizers, chairs of committees and programmes, editors of journals and newsletter, and council members, for their valuable service and contributions. It is not possible for me to provide a list of names here, as such a list would be enormous. But I would like to mention Claudia Klüppelberg, the founding editor of the “Bernoulli News”, and her successor Angelika May, since I have not thanked them formally after the changing of editors.

Finally, I would like to thank past President Jef Teugels for his valuable advice from time to time, and the members of the Executive Committee, in particular, the Scientific Secretary Wilfrid Kendall, for their constant support, cooperation and assistance.

It is now my great pleasure to present to you the new President of the Bernoulli Society, David Oliver Siegmund. David ...”

*Louis Chen, outgoing President*

### 3. Committee Work

#### CCSP—Committee for Conferences on Stochastic Processes

The Committee for Conferences on Stochastic Processes (CCSP) is a subject area committee of the Bernoulli Society. Its objective is the advancement of the theory and applications of stochastic processes. It organizes international meetings on this subject, and generally plays a role in the activities of the International Statistical Institute, that is consistent with this aim.

A primary task of the CCSP is to sponsor the annual Conferences on Stochastic Processes and Applications, the SPA series. In particular, the committee selects the venues for these conferences, the organization being entrusted to local organizers supported by an international Scientific Advisory Committee for each such conference. In 1999, the 26th SPA Conference was held in Beijing, China, under the excellent leadership of Zhi-Ming Ma and Jia-an Yan.

In the years in which World Congresses of the Bernoulli Society are held (every fourth year), no SPA conferences are organized. The coming year, 2000, is such a year, which contains the 5th World Congress of the Bernoulli Society in Guanajuato, Mexico. (See page 22 for details.)

Future venues for SPA conferences include:

- SPA 27. July 9–13, 2001, Cambridge (U.K.)  
Principal organizer: J. R. Norris, email: spa27@statslab.cam.ac.uk
- SPA 28. July 1–5, 2002, Melbourne (Australia)  
Principal organizer: T. Brown, email: T. Brown@ms.unimelb.edu.au

The committee is currently investigating the possibility of holding the 29th SPA conference in South America; a final decision will be reached in 2000 subsequent to the CCSP meeting at Guanajuato. At this meeting, further plans will also be discussed. Groups interested in organizing a SPA conference, or members of the Bernoulli Society having suggestions, are kindly requested to contact the committee chair, Mike Keane (keane@cw.nl).

*Mike Keane, Amsterdam*

#### C(PS)<sup>2</sup>—Committee on Probability and Statistics in the Physical Sciences

The Committee on Probability and Statistics in the Physical Sciences recommended David Brillinger to the council as the next committee chair to begin at the 5th World Congress in May, 2000. This was approved by the Bernoulli council in Helsinki. The committee also recommended Wojbor Woyczynski as chair elect. The committee will continue to organize conferences and workshops on themes in probability and statistics in the physical sciences which will be reported to members of the Bernoulli Society in Bernoulli News.

For the first time The International Environmetrics Society (TIES) and Statistics in Public Resources, Utilities and in Care of the Environment (SPRUCE) are joining forces to hold an International Conference TIES/SPRUCE2000, which will be hosted in the UK by the University of Sheffield from September 4–8, 2000. More information can be obtained at the website <http://www.shef.ac.uk/ties-spruce2000>

A report on SESS-TIES 99, the Athens satellite meeting to Helsinki 1999 follows on page 12.

*Ed Waymire, Cornwallis, USA*

#### ERC—European Regional Committee

The members of the ERC had their 1999 meeting during the ISI Session in Helsinki.

The most important decisions were:

- The nominations of new members of ERC to replace those retiring in 2000. According to its constitution, the ERC has nominated the following candidates to be elected for the period 2000–2004:  
Marc Aerts (Belgium)  
Peter Imkeller (Germany)  
Stephan Morgenthaler (Switzerland)  
Tamas Mori (Hungary)

Mihael Perman (Slovenia)

Aad van der Vaart (Holland).

- The nomination of Michael Sørensen (Denmark) for the Chair of ERC for the term 2000–2002.
- Future meetings were discussed, with particular emphasis on the 23rd and 24th European Meetings of Statisticians.
- The 23rd European Meeting of Statisticians will be held in Funchal, Portugal, August 13–19, 2001. The current work of the Programme Committee, which consists of Teresa Alpuim, Anthony Davison (Chair), Olle Häggström, Nils Lid Hjort, Isaac Meilijson and Mauro Piccioni, has been appreciated and approved. The suggestion to move the 23rd EMS to the capital of Madeira Island, Funchal, from Lisbon, where the meeting had been earlier planned to be held, was submitted to the ERC by Dinis Pestana, Chairman of the Organizing Committee, immediately before the meeting in Helsinki. In Helsinki, the decision was postponed until all the pros and cons have been thoroughly investigated. In particular, the decision was made conditional on getting reduced air fares from Lisbon to Funchal and back to Lisbon. The decision to move the 23rd EMS to Funchal was finally reached in September.
- The 24th European Meeting of Statisticians will be held in Prague, August 19–23, 2002. A formal invitation was sent to Martin Janzura of the Czech Academy of Sciences to host the 24th EMS and become the Chairman of its Organizing Committee. It was decided that another invitation will be sent to Marie Huskova to become the incoming ERC Programme Coordinator for the term 2000–2002, with the intention that she will start her work on forming Programme Committee for the 24th EMS as soon as possible.
- In view of resignations of Muriel Casalis and Hans Künsch from the Steering Committee for the SemStats, the ERC decided to invite Dominique Picard and Holger Rootzén to join the Steering Committee. The remaining members of the Steering Committee are Ole Barndorff-Nielsen, Rainer Dahlhaus, Wilfrid Kendall, Claudia Klüppelberg (Chair) and Peter Spreij.
- ERC will assist SemStats and, possibly, EYSM's in their search for funds for future meetings.

*Jacek Koronacki, Warsaw*

### **LARC—Latin American regional Committee**

The next CLAPEM (Latin American Congress of Probability and Mathematical Statistics) will be held in 2001. (Country still to be decided.)

In the next CLAPEM it will be given the third edition of the award: Francisco Aranda Ordaz, to the best PhD thesis written by a Latin American student (inside or outside Latin America), thesis which has been or will be accepted in the period: January 1, 1998 until December 31, 2000. The organizer of the third edition of the prize is Professor Guido del Pino. The prize is a diploma and a grant to support the attendance of the winner to the next CLAPEM on which he or she will give an invited conference.

The period of reception of the three copies of the thesis is January–March 2001. Address:

Professor Guido del Pino

Coordinador Premio Francisco Aranda Ordaz

Pontificia Universidad Católica de Chile

Facultad de Matemáticas

Casilla 306

Santiago 22, Santiago, Chile.

Renovation of the Latin American regional Committee LARC. This year expired the period in office of: Victor Perez-Abreu (Past President), Guido del Pino and Luis Raul Pericchi (Current President). The three outgoing members have agreed to form a nominations committee to propose 3 new members for the next LARC. Elections will be held via regular mail from January until May 2000.

*Luis Raul Pericchi, Caracas*

## 4. Journals of the Bernoulli Society

### News Item

Act now and enjoy *free* electronic access to Stochastic Processes and their Applications.

Elsevier Science is pleased to inform you that all Bernoulli Society members will have free electronic access to the latest articles published in the journal Stochastic Processes and their Applications from 2000 onwards.

Electronic access gives you the following benefits:

- complete access to the full-text of the latest journal issues
- use of search and browse facilities
- the ability to download abstracts (HTML) and full-text articles (PDF)
- a wide range of additional information
- all from your own desktop

If you wish to receive free access to the journal you can register from January 1, 2000 onwards at: [www.elsevier.nl/locate/](http://www.elsevier.nl/locate/) Once you have registered you will be provided with a username and password by e-mail.

In addition to the electronic access for members, Elsevier Science continues to make available a print subscription to the Bernoulli Society Members at a reduced rate. The 2000 membership subscription rate for the printed journal is NLG 135,00. If you are interested in receiving a print subscription to the journal please contact Erica van der Kraan at ISI (e-mail = [EKRN@cbs.nl](mailto:EKRN@cbs.nl)).

If you have already renewed your print subscription for 2000 but now wish to have free electronic access only, please also contact Erica van der Kraan. If your print subscription is cancelled before the March 31, 2000, you will be refunded an amount equivalent to the issues that have not yet been published.

For additional information on Stochastic Processes and their Applications go to the journal's website at: [www.elsevier.nl/locate/spa](http://www.elsevier.nl/locate/spa)

*Nicolette van Dijk, Publishing Editor, Elsevier Science*

## 5. Bernoulli Society 2000

### BS 2000 Conferences

As previously announced, it is intended in the year 2000 to hold a number of international conferences and workshops, in the framework of the World Mathematical Year 2000 and under the aegis of the Bernoulli Society. Seven conferences are planned and up-to-date information on these are given below.

Participation in the meetings will be by invitation. However, anyone interested in attending one of the meetings is welcome to contact the organizer.

► **BS 2000 Conference on *Statistical Science and Environmental Policy: Possible Interactions***

For details see page 19.

**Place:** Indian Statistical Institute, Calcutta

**Time:** January 10–12, 2000

**Organizer:** Jayanta Ghosh (Calcutta)

► **BS 2000 Workshop on *Stochastic Geometry***

For details see page 21.

**Place:** University of Georgia, Athens, USA

**Time:** May 10–12, 2000

**Organizer (Workshop):** C. C. Heyde (Canberra)

► **BS 2000 Symposium on *Defining the Science Stochastics. In Memoriam Jakob Bernoulli***

For details see page 27.

**Place:** University of Würzburg, Germany

**Date:** October 4–6, 2000

**Organizer:** Elart von Collani (Würzburg)

► **BS 2000 Symposium on *Neural Networks and Learning***

For details see page 28.

**Place:** Brain Science Institute, Wako-shi, Saitama (Tokyo), Japan

**Time:** October 25–27, 2000 (tentative)

**Organizer:** Shon-ichi Amari (Tokyo)

► **BS Meeting 2000 on *Finance and Statistics***

For details see page 29.

**Place:** University of Technology, Sydney

**Time:** December 4–9, 2000

**Organizer:** Eckhardt Platen (Sydney)

► **BS 2000 Conference on *Causality***

Still at an early planning stage.

**Organizer:** James Robins (Harvard)

► **BS 2000 Workshop on *Quantum Stochastics***

For details see page 30.

**Place:** EURANDOM, Eindhoven, The Netherlands

**Time:** February 5–9, 2001.

**Organizer:** Richard D. Gill (Utrecht).



## 6. Reports on Recent Activities

### **Financial Derivatives and Portfolio Theory May 3–8, 1999, Eindhoven (The Netherlands)**

The EURANDOM institute at the University of Eindhoven hosted and organized this five day training event under chairman Thomas Mikosch with well-known speakers Tomas Björk (Stockholm School of Economics), Ralf Korn (University of Kaiserslautern) and Peter Spreij (University of Amsterdam). Closely 50 participants attended the lectures which consisted of three two-hour sessions on Monday to Thursday and two two-hour sessions on Friday totalling to 28 hours of introduction to finance mathematics. The spectrum of the lectures was quite broad, from a basic introduction to Finance and Brownian motion to the more sophisticated chapters on Stochastic partial differential equations and Portfolio optimization. The event

was well scheduled and scripts were distributed to all the participants. During the breaks, all the lecturers were available for questions from the participants and provided profound knowledge of their respective subjects. Discussion was also encouraged among the participants, mostly Ph.D. students and graduate students, especially during the two hour lunch break. The event thus provided not only an introduction to finance mathematics and the theory of financial derivatives, but also gave a glimpse into recent developments, such as Portfolio Optimization under Transaction Costs.

*Marcus Haas, Bonn*

### **Third Scandinavian-Ukrainian Conference in Probability Theory and Mathematical Statistics June 8–12, 1999, Kiev (Ukraine)**

The Third Scandinavian-Ukrainian Conference in Probability Theory and Mathematical Statistics took place from June 8 to 12, 1999 at the National Taras Shevchenko University (NTSU), Kiev, Ukraine. It was organized by the Department of Mathematics of NTSU, in conjunction with the National Academy of Sciences of Ukraine and the Institute of Mathematics. The conference was supported by the Ministry of Ukraine for Affairs of Science and Technologies and the international foundation “Vidrodgennya”.

The Scandinavian-Ukrainian Conference in Probability Theory and Mathematical Statistics is held each two years. The first conference took place in Ukraine in 1995 and was followed by the conference in Sweden in 1997. This year conference was attended by about 200 participants from 14 countries. The lectures covered special topics from various fields: Stochastic analysis; Limit theorems; Statistics; Markov processes; Infinitesimal analysis and quantum theory; Queuing theory; Stochastic

models in finance; Random fields; Probability distributions.

There were 14 invited lectures and 137 contributed talks. The invited speakers were R. Minlos (Russia), A. Gut (Sweden), I. Kovalenko (Ukraine), M. Gyllenberg, Y. Kozachenko (Ukraine), O. Zakusylo (Ukraine), S. Albeverio (Germany), M. Portenko (Ukraine), L. Streit (Germany), J. Steif (Sweden), Y. Linkov (Russia), H. Schmidli (Denmark), A. Dorogovtsev (Ukraine), Y. Kondratiev (Germany).

Alongside with the conference, the school on financial mathematics has been held from June 8 to June 11. About 15 lectures were given in the framework of the school.

There was a welcome party on the first day of the conference and a number of excursions to the ancient part of city and an excursion on the river tram along the marvelous Dnieper banks.

*Alexei Kondratiev, Bonn*

### **International Conference on Probability and Statistics and their Applications June 9–11, 1999, Hanoi (Vietnam)**

The International Conference on Probability and Statistics and their Applications took place at the National Centre for Natural Sciences and Technology (NCST), Hanoi, Vietnam. It was organized by the Hanoi Institute of Mathematics—one of 17 national institutes belonging to NCST—under the

auspices of the East-Asian and Pacific Regional Committee (EAPRC) of the Bernoulli Society with Co-chairmen Louis H. Y. Chen and Tran Manh Tuan.

The conference was attended by 114 participants from 14 countries. The topics had wide spec-

trum ranging from theoretical probability to applied problem in statistics. There were 10 invited lectures and 34 contributed talks.

The invited speakers were J. D. Chen (China), C. S. Choi (Korea), P. Hall (Australia), F. Hsieh (Taiwan), Z. M. Ma (China), N. Obata (Japan), Y. Ogata (Japan), D. Stroock (USA), D. H. Thang (Vietnam), Y. K. Truong (Singapore). The Director General of the National Center for Natural Sciences and Technolog Prof. Dr. Dang Vu Minh and President of the Vietnam National University Hanoi and Chairman of the Council of Natural Sciences Prof. Dr. Nguyen Van Dao attended the opening ceremony and gave speeches.

The social activities included a welcome reception

at the floating restaurant on the West Lake, the Conference Banquet, and a city tour. Many foreign participants have joined a trip to Halong Bay—the World Heritage (300 km in the North-East of Hanoi). These activities enhanced the informal interactions among the participants.

An EAPRC meeting was held on June 10. It noted again that the absence of participants from Indonesia, Malaysia, Thailand and the Philippines, and agreed to make efforts to organize conferences in these countries. And the committee would like to thank the organizers for the super job they had done for this conference.

*Tran Manh Tuan, Hanoi  
Chii-Ruey Hwang, Taipei*

*Tran Hung Thao, Young Troung, Nguyen Duy Tien, Tran Manh Tuan, Peter Hall in Hanoi*

### **SPA '99—26th International Conference on Stochastic Processes and their Applications June 14–18, 1999, Beijing (The People's Republic of China)**

The 26th Conference on Stochastic Processes and Their Applications took place from June 14 to 18, 1999 at the Friendship Hotel, Beijing, China. There were 94 participants, of which 57 were from foreign countries, Hong Kong and Taiwan, and 27 from mainland China.

The Special Invited SPA lecture, which was sponsored by Elsevier Science B. V., was delivered by A. N. Shiryaev. The other invited lectures, each of 45 minutes, were delivered by L. H. Y. Chen, D. M. Chung, J. G. Dai, P. A. Ferrari, M. Fukushima, T. Kurtz, Y. G. Lu, T. S. Mountford, B. Øksendal, S. G. Peng, M. P. Qian, M. Röckner and S. J. Sheu. There were 12 sessions with about 70 contributed talks of 25 minutes each. The conference covered a

wide spectrum of topics ranging from theoretical to applied probability.

A meeting of the Committee for Conferences on Stochastic Processes was held during the conference. Michael Keane was elected as the new chairman of the Committee. It was confirmed at the meeting that the 27th SPA conference would be held in Cambridge, U.K. in 2001 and agreed that the 28th SPA conference be held in Melbourne, Australia in 2002.

There was much enthusiasm and interaction among the participants. The conference was a great success.

*Jia-an Yan, Beijing*

**International Workshop on Markov Processes and Controlled Markov Chains  
August 22–28, 1999, Changsha, Hunan (China)**

The workshop was co-chaired by Zhenting Hou, J. A. Filar, A. Chen and Louis H. Y. Chen. It was sponsored by the Changsha Municipal Government, Xiangcai Securities Co. Ltd., the Bernoulli Society, the National Science Foundation of China and other organizations.

Guangzhao Zhou, Chinese Academy of Sciences, Vice-Chairman of the Standing Committee of the National People's Congress of China, and Chairman of the Chinese Association of Science and Technology, accorded the workshop this inscription: "Carrying out Academic Exchanges and Promoting Scientific Research".

**SESS-TIES'99 (Satellite Meeting to ISI'99)  
International Conference on Environmetrics and Statistics in the Earth and Space Sciences  
August 23–27, 1999, Athens (Greece)**

The international conference SESS-TIES'99 on "Environmetrics and Statistics in the Earth and Space Sciences" (ESESS) convened at the Athens University of Economics and Business (AUEB), August 23–27, 1999 under the joint sponsorship of The International Environmetrics Society (TIES) and the Bernoulli Society Committee on Probability and Statistics in the Physical Sciences (C(PS)<sup>2</sup>). This conference was convened as a satellite conference to the 52nd Biennial Session of the International Statistical Institute (ISI) in Helsinki, and it marked the tenth anniversary of the same conference sponsored by the C(PS)<sup>2</sup> in 1989 at Leuven. It also marked the tenth anniversary of the annual series of international conferences on Quantitative Methods for the Environmental Sciences since the foundation of TIES. The scientific program committee was chaired by Abdel El-Shaarawi and the local organization was chaired by Harry Pavlopoulos.

The keynote address for the conference was delivered by Jef L. Teugels on "Wind and Statistics". The presentation helped to define wind in stochastic terms at various scales ranging from breezes and gusts to tornadoes and hurricanes. The importance of better quantification of wind was highlighted by example applications to the design of structures to spread of pollutants in the atmosphere.

Peter Guttorp delivered the John Stuart Hunter Lecture entitled "Picture the Future: Graphical Innovation in Environmental Statistics". This talk illustrated statistically informative graphical tools applied to the display of high dimensional categorized data, and of space-time processes, where the pitfalls and limitations of "static projections" were addressed.

The workshop brought together 120 scholars in the relevant disciplines from all over the world. The plenary lectures by E. Dynkin (Cornell University, USA), S. Watanabe (Kyoto University, Japan), A. Haurie (University of Geneva, Switzerland) and O. Hernandez-Lerma (CINVESTAV-IPN, Mexico) provided the participants with some of the most important recent developments in Markov processes and controlled Markov chains. The workshop has been a great success.

*Zhenting Hou, Changsha, Hunan*

The conference consisted of 23 Sessions where 57 talks were delivered by invited and contributing speakers who covered a number of diverse special topics. There were also 2 Poster Sessions where 22 papers were presented by graduate students of the Statistics Department of AUEB. We present here a sample of sessions intended to acquaint the reader with a few of the problems, issues and results which exist in this very broad area of scientific research. This is by no means a comprehensive report, but the complete program and abstracts may be viewed at the designated website

<http://www.stat-athens.aueb.gr/esess/>

The session entitled "Statistical Research on Ambient Particulate Matter Pollution" dealt with three principal statistical questions arising in air pollution health effects research: Assessment of the precision and accuracy of exposure data; Developments of statistical models of air pollution exposure; and Relationships between exposure data and health effects data.

A session on "Extremes" identified problems pertaining to climatic extremes in precipitation, hurricanes, and wind storms with some emphasis on modeling the associated economic damages and risks.

The session on "Diffusion and Transport" focused on concentration profiles measured as the result of turbulent diffusion and atmospheric dispersion. Laboratory data illustrated the fundamentally inherent stochastic evolution of the concentration data sets taken from wind tunnel experiments. Methods to obtain evolution equations were discussed as well as the application of extreme value theory to describe high concentration tails.

In the session entitled “Ecological Statistics” statistical methodology to analyse *in vivo* animal-data on the toxicokinetic process of uptake, exhalation and metabolism of the petrochemical ethylene was considered. This is a natural body constituent and an important industrial chemical. Apart from the study of experimental animals, this type of research also presents a need for new methodology to extrapolate from findings in animals to human organisms in the formation of DNA-adducts. A second talk in this session was concerned with the problem of soil erosion by water. Small data set problems were noted and aerial photography was proposed as a possible remedy which would require development of suitable methods of pattern recognition and forecast formulae. A major issue in this regard is the linking of field observations with information gained from aerial photography.

The session on “Precipitation” addressed the issue of identifying the presence of long-term trends in precipitation via quantification of trend parameters in Generalised Linear Models fitted to rainfall data from the Galway Bay region in Western Ireland, along with some specimen predictions of future climate in the area derived from simulations. The rest of the session was concerned with the space-time structure of rainfields under the prism of scaling properties across the range of spatial mesoscales. Interest was partly focused on scaling properties of tail quantiles and moments of dry and wet spell lengths in time series of spatially averaged rain rate retrieved from TOGA-COARE radar snapshots, and partly on the estimation of parameters in a class of space-time causal multifractal rainfall models based on dynamic discrete multiplicative cascades.

The session on “River Networks and Flows” addressed the general problem of prediction of flows from ungauged river basins. Here the problem is to assess flows (and extremes) from information about local climate (rainfall, snowmelt) and topography (hillslope distributions, river network). The approach is based on relationships between scaling exponents and self-similarities observed in rainfall, topography, and flows. Research seeks to identify and quantify these relationships in data and to provide a theoretical framework for their interpretation.

The TIES Student Prize Award was shared be-

tween Elke Kestens (Katholieke Universiteit Leuven, Belgium) for her talk entitled “Period Analysis of Astronomical Time Series: A Non-Parametric Approach” in the session “Statistics in the Astrophysics”, and Maria Schipper (University of Utrecht, The Netherlands) for her talk entitled “Towards a Sequential Analysis of Environmental Monitoring Data: Simplification of the Covariance Matrix Structure” in the session “Change-Point and Sequential Analysis”, for their outstanding presentations. A complementary award was given by TIES to Dimitra Pinotsi (Athens University of Economics and Business, Greece) in recognition of the best poster paper presentation entitled “Stochastic Modelling of Rain Rate Processes through a Diffusion Framework”.

Perhaps the summarizing theme of this conference is that whether from the perspective of environmental analysis and mitigation or from purely scientific curiosity, modern technology has made observations possible at a range of scales of space and time in which there is a dearth of both mathematical/physical theory and statistical methodology, yet the prospects for revolutionary new frameworks. That is, plenty “food for thought” and for future meetings bringing together theoreticians and practitioners towards improved understanding of physical and anthropogenic impacts on the evolution of the Environment.

Unanimous acknowledgement by delegates and participants regarding the successful organization and materialization of the conference, including all aspects of accommodation and social events, obliges us to express our most sincere thanks to the partial co-sponsors of the conference (Athens University of Economics and Business, General Secretariat of Research and Technology, Hellenic Ministry of Education, Hellenic Ministry of Environment, and Hellenic Ministry of Culture), and even more so to all the individuals who genuinely offered their help and worked to make this meeting successful and memorable. In particular, the photographs accompanying this report, are kindly provided by Nadia El-Shaarawi, as a glimpse to highlighted moments of the conference.

*Ed Waymire, Oregon,  
Abdel El-Shaarawi, Ontario,  
Harry Pavlopoulos, Athens*

*The Student Award Winners: Dimitris Podiotis, Maria Schipper and Elke Kestens*

**11th European Young Statisticians Meeting  
August 24-28, 1999, Marly-le-Roi (France)**

The European Young Statisticians Meetings are a series of conferences patronized by the Bernoulli Society which are held every two years. They gather European researchers in probability theory or statistics who are less than 30 years old or have 2 to 8 years of research experience. The 11th European Young Statisticians Meeting was held in Marly-le-Roi, near Paris, on August 24-28, 1999. It was organized by C. Cierco-Ayrolles, O. David, S. Schbath-Grammagnat and G. Tordjman-Mohaddab (INRA). It gathered 39 participants coming from 21 European countries. The meeting took place at the Institute for Youth and Community Education,

which offers in the same location lecture rooms, accommodation and dining rooms. Each participant gave a talk and wrote an abstract. The subjects of the talks were varied and ranged from probability theory to applied statistics. The social program included an excursion to the Chateau of Versailles and a conference dinner in Versailles. Discussions between participants were encouraged during the meeting. The next meeting will be held in 2001 either in Hungary or in Slovakia.

*Olivier David, Versailles*

## 7. Research Centers

### MaPhySto

The Danish National Research Foundation has recently established a Centre for Mathematical Physics and Stochastics (MaPhySto) with start April 1, 1998. Its Scientific Director is Ole E. Barndorff-Nielsen. The objective of the Centre is to strengthen the areas Mathematical Physics and Stochastics (and the interplay between these), by organizing conferences, summer schools and other activities in these areas.

More information can be found at the Centre's web

page at

<http://www.maphysto.dk>

or by writing to the MaPhySto address:

Department of Mathematical Sciences

University of Aarhus

Ny Munkegade

DK-8000 Aarhus C

Denmark

phone: +45 8942 3188

fax: +45 8613 1769

email: [maphysto@mi.aau.dk](mailto:maphysto@mi.aau.dk)

### Workshop on Computational Stochastics (MaPhySto) January 17–22, 2000, University of Aarhus (Denmark)

Computational stochastics is a new and expanding area of stochastics, dealing with computational methods of analyzing complex mathematical and statistical models. The workshop intends to reveal and discuss the potential strength and impact of this new discipline in a variety of applications. It is held at the Department of Mathematical Sciences, University of Aarhus, and organized by StocLab (Laboratory for Computational Stochastics) and MaPhySto, University of Aarhus.

The organizing committee consists of Søren Asmussen (Lund) and Eva B. Vedel Jensen (Aarhus).

#### More Information

From the web-page

[www.maphysto.dk/events/CompStoc2000/](http://www.maphysto.dk/events/CompStoc2000/).

Here you also can register and find travel information. The registration fee is DKK 500 (approx. \$ 75).

### Concentrated Advanced Course on Lévy Processes January 24–28, 2000, University of Aarhus (Denmark)

The course will take place at the Department of Mathematical Sciences, University of Aarhus. Each day there will be 2–4 hours of lectures plus exercise sessions. The lectures will be given by Ken-iti Sato (Nagoya University). The following forthcoming book will be a reference: K. Sato, *Lévy Processes and Infinitely Divisible Distributions*, Cambridge University Press, 1999.

#### Content of Main Course

Lévy processes are stochastic processes on the Euclidean space, stochastically continuous and with stationary independent increments. Examples are Brownian motion, Poisson processes, stable processes (such as Cauchy processes), and subordinators (such as Gamma-processes). They form a basic class in stochastic analysis. This course aims at giving an introduction to elementary properties of Lévy process and to transformations between Lévy processes. Familiarity with the method of characteristic functions and some knowledge of Brownian motion, Poisson processes, and infinitely divisible

distributions are expected. The following are the main contents of the lectures.

- Characterization of Lévy processes by the Lévy-Khintchine representation of infinitely divisible distributions. Probabilistic meaning of the characterization.
- Transformations of Lévy processes to Lévy processes. Especially, the subordination invented by Bochner and the density transformation (mutual absolute continuity in the path space in finite time) of Skorohod, Newman, and Kunita-S. Watanabe will be discussed in detail.
- Large time behaviors of Lévy processes. Especially recurrence, transience, and oscillation are characterized. (Chung-Fuchs, Spitzer, Port-Stone, Shepp, Kesten, Erickson)
- Time evolution of unimodality and multimodality of the distributions of Lévy processes on the line. (Wolfe, Yamazato, Sato, Toshiro Watanabe)

### Additional lectures

In addition to the main lectures there will be a mini-course (4 hours) with lectures by Francesco Mainardi (University of Bologna) on *Fractional Calculus in the Theory of Probability and Stochastic Processes*. Furthermore there will be a couple of one-hour guest lectures.

### Summer School on Stereology and Geometric Tomography May 20–25, Sandbjerg Manor (Denmark)

The summer school is addressed to PhDs, PostDocs and other researchers in mathematics. Scientists from the natural sciences with a strong background and interest in mathematics are also welcome. The number of participants is limited to 50. Participation will therefore be by application only.

The aim of the summer school is to give an overview of modern stereology and its relation to geometric tomography, including both the mathematical and statistical theory and the practical applications.

Stereology is the area of stochastics dealing with statistical inference about spatial structures from geometric samples of the structure such as two-dimensional sections and one-dimensional probes. The development of stereological methods involve the use of advanced mathematical tools, especially from geometric measure theory and integral geometry.

Geometric tomography is closely related to stereology, as is apparent from its definition: “geometric tomography is the area of mathematics dealing with the retrieval of information about a geometric object from data about its sections, or projections, or both”. Geometric tomography has connections with convex geometry, geometric probing

### Further Information and Registration

From the web page

[www.maphysto.dk/events/LevyCAC2000/](http://www.maphysto.dk/events/LevyCAC2000/)

you may find more information on this event. From there it is also possible to register for the course, there is no registration fee. The deadline for registration is *December 20, 1999*.

in robotics, computerized tomography, and other areas.

The teaching team includes

- Adrian Baddeley (Univ. of West. Australia)
- Richard Gardner (W. Washington University)
- Hans Jørgen G. Gundersen (Univ. of Aarhus)
- Eva B. Vedel Jensen (University of Aarhus)
- Kiên Kiêu (Institut National de la Recherche Agronomique, Versailles)

### Registration

To apply for participation please fill out the registration form located at

[www.maphysto.dk/events/  
S-and-GT2000/register.html](http://www.maphysto.dk/events/S-and-GT2000/register.html)

The deadline for application is *March 1, 2000*. The registration fee is DKK 750.

### Further Information

From the web-page

[www.maphysto.dk/events/S-and-GT2000/](http://www.maphysto.dk/events/S-and-GT2000/)

you may find regularly updated information on this and other events. You are also welcome to contact the organizer Eva B. Vedel Jensen (e-mail: [stoclub@imf.au.dk](mailto:stoclub@imf.au.dk)).

# EURANDOM

## Statistics and probability in computational biology

Molecular biology will be a vitally important area of scientific research during the next decade. The genomes of a number of micro-organisms have been sequenced and completing the sequence of the human genome will take another 3 or 4 years. Then most of the relevant genetic information about the human species will in principle be available in a gigantic sequence database of  $3.4 \times 10^9$  base pairs. Molecular biology will be a vitally important area of scientific research during the next decade. The available information has to be extracted from the database. Genes have to be identified and expression data analysed. Better and faster methods are needed to search extremely large databases for specific patterns and for comparison with similar databases. Mathematical models for the relevant biological processes have to be improved and tested and this will lead to new methods of analysis. Ultimately, this will open up possibilities for e.g. understanding evolution, pinpointing the genetic causes for certain diseases and starting the development of new drugs. Mathematics and computer science can provide the tools to achieve these goals.

### Program Objectives

The research will go in a number of different but related directions.

- Probabilistic methods for sequence analysis
- Understanding evolutionary forces on a molecular level
- Analysis of extremely large datasets

### Collective Expertise

The collective expertise of the partners in this network covers the areas of computational biology, probability theory and mathematical statistics, which is the subject of the research and the training programme of the network. All partners have an excellent international reputation in their respective subjects. The different partners have complementary tasks, but there are also common interests.

Team 1 is based on EURANDOM, the European institute for statistics, probability and operations research and their applications, and these are the areas of its expertise. Key persons: R. D. Gill, M. C. M. de Gunst, M. S. Keane, W. R. van Zwet.

Team 2 is based on the Gothenburg Stochastic Centre, the Swedish national centre for statistics and probability. Key persons: O. Nerman, M. Rudemo, P. Jagers, Z. Taib.

Team 3 is based on the Department of Electronics and Informatics of the University of Padova. It brings to the network its expertise in the analysis

of extremely large datasets. Key persons: A. Apostolico, L. Colussi, G. Lancia.

Team 4 is based on the Centre for Biological Sequence Analysis at the Technical University of Denmark at Lyngby. This team brings to the network its expertise on gene structure with a recent emphasis on statistical gene finding using an integrated model estimated on the basis of a conditional maximum likelihood method. Key persons: S. Brunak, A. Krogh.

Team 5 is based on the Institut National de la Recherche Agronomique, Centre de Recherches de Jouy-en-Josas (INRA-CRJJ). It contributes expertise in computer science, statistics and artificial intelligence applied to biological fields such as genetics (building genetic maps, identifying and locating QTL) and sequence analysis (alignment of sequences, prediction and visualisation of RNA secondary structure, location of small RNA, identification of protein domains). Key person: E. de Turckheim.

Team 6 is based on the theoretical bioinformatics unit at the Deutsche Krebsforschungszentrum at Heidelberg. This team provides expertise on statistical aspects of sequence alignment and the analysis of gene transcript levels in cells. Key person: M. Vingron.

Team 7 is based on the Max-Planck-Institut für evolutionäre Anthropologie at Leipzig. It brings to the network expertise on a broad front of the mathematical theory of evolution. Key persons: A. von Haeseler, G. Weiss, D. Metzler.

Team 8 is based on the mathematical genetics group of the Department of Statistics in the University of Oxford. This team adds to the programme its expertise in stochastic modelling and statistical analysis of data documenting DNA sequence and related molecular variation within and between populations. Key persons: P. Donnelly, A. Etheridge, R. C. Griffiths, N. Laws.

Team 9 is based on the Applied Mathematics Department at the ETH in Zürich. This team provides considerable probabilistic expertise applied to macromolecular systematics, in particular to detecting distant relationships between proteins. Another area of expertise is methods for finding “useful” genes in libraries of genomic sequences, for instance those relevant to the infection of host cells by organisms such as malaria. Key person: A. Barbour.

Team 10 is based on the bioinformatics group at The Sanger Centre at Cambridge, which is Europe’s



leading genome sequencing centre where most of the sequencing of the human genome was done so far. The team contributes its unique expertise in probabilistic modelling for sequence analysis. Key person: R. Durbin.

### **Training**

It is generally agreed that there is a shortage of research workers in computational biology and that the situation in Europe is worse than in the US in this respect. The rapid progress in molecular biology has produced a growing need for experts in this multidisciplinary field. Because of the increasing complexity of the mathematical problems involved, it is no longer enough to have some limited mathematical knowledge. Many of the methods employed in computational biology are statistical or probabilistic, and up-to-date knowledge in these areas is needed to be effective.

In principle, training will be provided for post-docs in probability and statistics. The training program

envisages providing a two-year training period. The post-docs will be trained in computational biology, or more specifically in the application of statistics and probability theory to molecular biology. The objective of the training programme is to educate highly qualified and much needed experts who are at the forefront of research in computational biology as well as in statistics and probability. Contacts with potential users and possible future employers will be encouraged.

### **Address**

EURANDOM

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The Netherlands

phone: +31 40 2478100

fax: +31 40 2478190

email: [all@eurandom.tue.nl](mailto:all@eurandom.tue.nl)

### **Further information**

<http://www.EURANDOM.tue.nl>

## 8. Conferences 2000

### ► **BS 2000 Workshop on Statistical Science and Environmental Policy: Possible Interactions January 10–12, 2000, Calcutta (India)**

This workshop is jointly organized by the Indian Statistical Institute and the Bernoulli Society.

The major environmental theme areas to be covered are: Biodiversity; Land, Air and Water Pollution; Environment, Economics and Population; Global Warming and Climate Change; New Technology for Environment Management.

The stress will be on dialogues between the groups focussing on assessment of existing data bases in India and other developing countries, statistical analysis of existing data, design for collecting new data, and models and forecasts for future scenarios.

Invited speakers include subject matter experts (mostly from India) and statisticians (mostly from outside India). There will be about 20 invited lectures by scientists from Australia, Canada, India, New Zealand, Japan, Taiwan and USA. Participation is by invitation. To encourage further interaction, about 15 young scientists with proven motivation and already working on different aspects

of the environmental situation in India are invited to attend the workshop and take part in discussion. There will be 3 plenary lectures and two popular lectures. The popular lectures will be for high school students. Details on the plenary lectures are given below.

- Watershed Frontier of Landscape Health Assessment in Environmental and Ecological Statistics (G. P. Patil)
- Incorporating Stochasticity in Environmental Models (J. Filar)
- Population Problem and Environmental Degradation (D. K. Bose)

There will also be a policy oriented panel discussion. The proceedings of the workshop will be published. The workshop is funded by the Indian Statistical Institute, Department of Statistics and Programme Implementation, Government of India and West Bengal Pollution Control Board.

### **International Conference on Fundamental Sciences: Mathematics and Theoretical Physics March 13–17, 2000, Singapore**

This conference is being organized by the Faculty of Science, National University of Singapore, Singapore, and the Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom, in conjunction with the Institute of Physics, Singapore, and the Singapore Mathematical Society. Its theme is “Challenges in mathematics and theoretical physics for the twenty-first century”.

The program will consist of three main components, namely scientific sessions, public lectures and lectures to schools. Lectures in all components will be conducted by invited speakers. The scientific sessions will consist of common sessions, special sessions and poster sessions for contributed papers. The lectures and poster sessions will be held at the Sheraton Towers Singapore.

The common sessions involve three areas of mutual interest to both mathematicians and physicists, namely, quantum field theory, dynamical systems

and scientific computation. Two one-hour lectures will be given in each of these areas. The special sessions will consist of twelve one-hour lectures in each of mathematics and theoretical physics.

Participants to the conference who wish to contribute papers for the poster sessions are referred to the conference website at

<http://www.math.nus.edu.sg/icfs>

for details.

#### **Further information**

The Organizing Secretary  
International Conference on Fundamental Sciences  
Mathematics and Theoretical Physics  
c/o Department of Mathematics  
National University of Singapore  
2 Science Drive 2  
Singapore 117543

fax: +65 779 5452  
email: [icfs@math.nus.edu.sg](mailto:icfs@math.nus.edu.sg)

**Statistics: Reflections on the past and visions for the future**  
**March 16–19, 2000, San Antonio, Texas (USA)**

This international conference will be held in honor of Professor C. R. Rao on the occasion of his 80th birthday. The primary focus of the conference will be to provide a forum for participants to discuss the changing face of statistical research and to highlight the contributions of C. R. Rao to different areas of Probability and Statistics.

**Program**

There will be several invited presentations by renowned statisticians and numerous technical sessions of contributed talks. The organizing committee consists of N. Balakrishnan (McMaster Univer-

sity), N. Kannan (University of Texas-San Antonio), J. P. Keating (University of Texas-San Antonio), R. Khattree (Oakland University), T. Nayak (George Washington University), and S. Peddada (University of Virginia).

**Further Information**

Please check

<http://www.math.utsa.edu/~kannan/conf>

or contact Nandini Kannan

email: [kannan@sphere.math.utsa.edu](mailto:kannan@sphere.math.utsa.edu)

**German Open Conference on Probability and Statistics (Hamburger Stochastik-Tage 2000)**  
**March 21–24, 2000, Hamburg (Germany)**

Following the tradition of three former *Stochastic Days* the conference shall again give opportunity to participants from universities, business and administration to present new results in the field of probability and statistics—in theory as well as in practice—and to discuss them with colleagues in an international environment.

Conference languages: English and German.

**Program Committee**

C. Klüppelberg (München, Chair), H. Dette (Bochum), H.-J. Engelbert (Jena), E. Mammen (Heidelberg), G. Neuhaus (Hamburg), M. Nussbaum (WIAS Berlin), V. Schmidt (Ulm), M. Schweizer (Berlin), A. Wakolbinger (Frankfurt).

Chair of the Local Organizing Committee:

Georg Neuhaus

email: [stoch2000@math.uni-hamburg.de](mailto:stoch2000@math.uni-hamburg.de)

**Sections**

1. Medical Statistics and Biometry, Niels Keiding (Kopenhagen)
2. Stochastic Methods in Optimization and Operations Research, Karl-Heinz Waldmann (Karlsruhe)
3. Asymptotic Statistics, Nonparametrics and Resampling, Lutz Dümbgen (Lübeck)
4. Statistics of Stochastic Processes and Time Series, Jens-Peter Kreiss (Braunschweig)
5. Monte-Carlo-Methods, Simulation and Image Processing, Claudia Czado (TU München)
6. Data Analysis and Design of Experiments, Ursula Gather (Dortmund)
7. Model Choice in Statistics, Friedrich Liese (Rostock)
8. Limit Theorems and Large Deviations, Gerd Christoph (Magdeburg)
9. Statistics of Extremes and Subexponential Distributions,

- Thomas Mikosch (Groningen)
10. Insurance and Finance, Christian Hipp (Karlsruhe)
11. Stochastic Geometry and Spatial Statistics, Martina Zähle (Jena)
12. Stochastic Networks and Random Graphs, Rudolf Mathar (Aachen)
13. Stochastic Models in Biology and Physics, Anton Bovier (Berlin)
14. Stochastic Analysis, Michael Röckner (Bielefeld)
15. Dynamical Systems and Ergodic Theory, Michael Scheutzow (Berlin)
16. Quality Control and Reliability Theory, Waltraud Kahle (Magdeburg)
17. Open Section, Gerhard Huebner (Hamburg)

**Conference Program**

All sections comprise an invited survey lecture (40 minutes) and contributed lectures (25 minutes including discussion), which will be organized in parallel sessions.

Besides the lectures listed above there will be three invited plenary lectures (including opening and closing lecture), a podium discussion on the topic “Stochastics after the year 2000” as well as a social event evening. Upon request poster sessions can be organized, software presentations are also possible.

**Speakers**

P. K. Andersen (Copenhagen), E. Arjas (Helsinki), L. Arnold (Bremen), O. Barndorff-Nielsen (Aarhus), P. Deheuvels (Paris), K. J. Falconer (Saint Andrews), H. Föllmer (Berlin), M. Fukushima (Osaka), F. Götze (Bielefeld), O. Häggström (Gothenburg), N. Henze (Karlsruhe), F. den Hollander (Nijmegen), A. Hordijk (Leiden), H. R. Künsch (Zürich), M. Neumann (Berlin), P. Rousseeuw (Antwerp), G. Samorodnitsky (Cornell), B. Silverman (Bristol), W. Schmidt (Frankfurt), M. Taksar (Stony Brook), W. R. van Zwet (Eindhoven).

## Further Information

Additional information can be found at  
<http://stoch2000.math.uni-hamburg.de/>  
or write to

Hamburger Stochastik-Tage 2000  
c/o Prof. Dr. Georg Neuhaus  
Institut für Mathematische Stochastik  
Universität Hamburg  
Bundesstr. 55  
D-20146 Hamburg  
Germany  
email: [stoch2000@math.uni-hamburg.de](mailto:stoch2000@math.uni-hamburg.de)

## ► BS 2000 Workshop on Stochastic Geometry Symposium on Inference for Stochastic Processes May 10–12, 2000, Athens, Georgia, (USA)

The Symposium is cosponsored by the Institute of Mathematical Statistics and is a satellite meeting to the Fifth World Congress of the Bernoulli Society. The Workshop on Stochastic Geometry, being held with the Symposium, is one of six workshops on topical areas arranged as part of the Bernoulli Society contribution to the World Mathematical Year 2000 program of the International Mathematical Union.

### Sessions (tentative)

1. *Foundations*  
Shifting paradigms in inference (C. C. Heyde)
2. *Models in Finance*  
Turbulence and finance (O. E. Barndorff-Nielsen), Options trading under statistical uncertainty (P. A. Mykland), Nonlinear models for financial time series (P. J. Brockwell)
3. *Stochastic Geometry I*  
J-functions for random sets (A. Baddeley), Perfect simulation and stochastic geometry (J. Moeller)
4. *Biostatistics*  
Issues in the analysis of binary longitudinal data (M. E. Thompson), Inference for birth and death urn designs (N. Flournoy), Inference on random coefficient models for haplotype effects in dynamic mutations (R. M. Huggins)
5. *Time Series I*  
Linear processes with nonlinear behavior (R. A. Davis), Stability of nonlinear time series: what does error have to do with it? (D. B. H. Cline), Prediction, likelihood evaluation and inference for periodic time series models (R. Lund)
6. *Contributed Papers I*
7. *Stochastic Differential Equations and Filtering*  
Inference and nonlinear filtering problems (G. Kallianpur), Statistical inference for SDE's and SPDE's (B.L.S. Prakasa Rao)
8. *Inference & Estimating Functions* Some aspects of statistical inference in stochastic processes (G. Roussas), Prediction-based estimating functions (M. Sørensen)
9. *Stochastic Geometry II*  
An invariant approach to statistical analysis of shapes: theory and practice (L. Lele), Inhomogeneous spatial point processes: a review of some recent developments (R. Bhansali), Optimal inference for semiparametric time series (W. Wefelmeyer)
10. *Time Series II*  
Efficient detection of random coefficients in autoregressive models (M. Hallin), Estimation of the long-memory parameter: a review of some recent developments (R. Bhansali), Optimal inference for semiparametric time series (W. Wefelmeyer)
11. *Inference & Prediction*  
Using Laplace transforms for parameter estimation (R.

- Tweedie), Predictive inference and empirical Bayes analysis (R. L. Smith)
12. *Contributed Papers II*
13. *Spatial Statistics*  
Semiparametric inference for spatial coupling in cyclic dynamic systems (P. Greenwood), A model for spatial clustering based on area-interaction point processes (I. McKeague)
14. *Medical Imaging*  
L. Shepp, M. Miller, P. Mitra
15. *Wavelets and Inference*  
Wavelet analysis of conservative cascades (S. Resnick), Inference for repeated measures designs (M. Akritas)
16. *Estimation and Convergence*  
Ergodic results for negatively dependent processes (R. L. Taylor), Conditional distributions and the Gibbs sampler (K. B. Athreya), Estimation of tail parameters for stochastic models (W. P. McCormick)
17. *Perspectives*  
Estimating functions for stochastic processes (V. P. Godambe), Inference for stochastic processes: some perspectives (I. V. Basawa)

### Symposium Site

Georgia Center for Continuing Education at the University of Georgia, Athens GA, USA

### Accommodation

A limited number of rooms are available for the Symposium participants at the Georgia Center. The Symposium website has a lodging link to the Georgia Center facilities. Indicate participation in the Symposium to obtain the reduced rate for one of the rooms reserved for the Symposium.

Other lodging is available at the major hotels and motels in Athens near campus:

Holiday Inn	+1 706 549 4433
Best Western	+1 706 546 7311
Hampton Inn	+1 706 548 9600
Travelodge Downtown	+1 706 549 5400
Holiday Inn Express	+1 706 546 8122
Comfort Inn	+1 706 227 9700

The Georgia Center facilities are handicap-accessible, and all buildings on campus are smoke-free. Assistance in arranging accommodation is available from the Conference Secretary.

## Travel

Athens is served locally by USAir. Most travelers prefer the numerous and more economical flights via the Atlanta Airport. Van transportation between the Atlanta Airport and Athens is provided by AAA Airport Express, The website [www.aaaairportexpress.com](http://www.aaaairportexpress.com) lists the most current schedules and prices.

## Social Events

Social Reception, May 9  
Symposium Banquet, May 11  
Symposium Luncheon, May 12.

## Further Information

Additional information may be obtained from the

Symposium website:

[http://www.stat.uga.edu/  
faculty/symp2000.html](http://www.stat.uga.edu/faculty/symp2000.html)

or by contacting any one of the organizers:

I. V. Basawa ([ishwar@stat.uga.edu](mailto:ishwar@stat.uga.edu))  
C. C. Heyde ([chris@wald.stat.columbia.edu](mailto:chris@wald.stat.columbia.edu))  
R. L. Taylor ([bob@stat.uga.edu](mailto:bob@stat.uga.edu)).

or the Conference Secretary:

Dawn Tolbert,  
Department of Statistics  
University of Georgia  
Athens, GA 30602-1952 phone: +1 706 542 3303  
USA fax: +1 706 542 3391  
email: [dawn@stat.uga.edu](mailto:dawn@stat.uga.edu)

## Workshop on Hierarchical Modeling in Environmental Statistics May 14–16, 2000 Columbus, Ohio (USA)

The workshop at the Ohio State University is co-sponsored by Ohio State University and the American Statistical Association's Section on Statistics and the Environment.

The program will feature presentations by international experts. Participants will also be involved in small discussion groups. A tutorial on Bayesian hierarchical modeling will precede the conference on Sunday morning May 14, 2000.

## Further Information

Please visit

[www.stat.ohio-state.edu/~ncressie](http://www.stat.ohio-state.edu/~ncressie)

or contact

Noel Cressie  
Department of Statistics  
1958 Neil Avenue  
404 Cockins Hall phone: +1 614 292 5194  
The Ohio State University  
Columbus, OH 43210-1247 fax: +1 614 292 2096  
email: [ncressie@stat.ohio-state.edu](mailto:ncressie@stat.ohio-state.edu)

## ► Joint BS/IMS Conference Year 2000, 5th World Congress May 15–20, 2000, Guanajuato (Mexico)

The 5th World Congress of the Bernoulli Society for Probability and Mathematical Statistics and the 63rd Annual Meeting of the Institute of Mathematical Statistics will be held at Guanajuato, Mexico.

The format of the meeting will be similar to that of the previous joint meetings held in Tashkent, Uppsala, Chapel Hill and Wien, blending Bernoulli Society and IMS traditions.

## Program Committee

L. Brown, C. Cutler, M. Fukushima, E. Giné (Chairman), L. Gorostiza, W. Kendall, C. Klüppelberg, M. Ledoux, E. Mammen, D. Mason, V. Pérez-Abreu, J. Pitman, A. Raftery, D. Siegmund, B. Silverman, R. Tibshirani, J. Wellner, R. Williams and W. Wong.

The Program Committee is responsible for selecting the topics of most of the Invited Paper Sessions.

## Special Invited Lectures

- Special Bernoulli Society Lecture.  
25 years of Bernoulli Society (J. Teugels, Katholieke Universiteit Leuven)
- Wald Lectures  
Asymptotics and the theory of statistical inference (N. Reid, University of Toronto)
- Neyman Lecture  
Some statistical problems from biotechnology (M. E. Bock, Purdue University)
- Kolmogorov Lecture  
Large Deviations, Interacting Particles and Scaling Limits (S. R. S. Varadhan, New York University)
- Laplace Lecture  
I. Johnstone, Stanford University
- Bernoulli Lecture  
Statistical inference in molecular population genetics (P. Donnelly, Oxford University)
- Special Lecture on Stochastic Processes and Ap-

plications (Sponsored by Elsevier Science)

On exponential functionals of Brownian motion and related processes (M. Yor, Université Pierre et Marie Curie, Paris)

– IMS Special Invited Lecture

Convex duality in Mathematical Statistics, Probability and Finance (I. Karatzas, Columbia University), Bayes Procedures for Infinite-dimensional Parameters (A. van der Vaart, Free University of Amsterdam), M. West, Duke University, Topics on random interfaces (E. Bolthausen, Universität Zürich)

### Invited Paper Sessions

1. Pattern Recognition and Image Analysis. Organizer: Yali Amit, University of Chicago, Chicago, USA.
2. Diffusion Processes and Analysis. Organizer: Richard Bass, University of Connecticut, Storrs, USA.
3. Bayesian/Frequentist P-values and Tests. Organizer: James Berger, Duke University.
4. Free Probability. Organizer: Philippe Biane, Ecole Normale Supérieure, Paris, France.
5. Statistical Mechanics of Disordered Systems. Organizer: Anton Bovier, University of Berlin, Germany.
6. Random Walks in Random Environments. Organizer: Francis Comets, Université de Paris VII, France.
7. Time Series Analysis. Organizer: Rainer Dahlhaus, Universität Heidelberg, Germany.
8. Stochastic Networks. Organizer: Jim Dai, Georgia Institute of Technology, Atlanta, Georgia.
9. Martingale and Decoupling Inequalities. Organizer: Victor de la Peña, Columbia University, New York, USA.
10. Strong Approximation in Probability and Statistics. Organizer: Uwe Einmahl, Vrije Universiteit Brussels, Belgium.
11. Measure Valued Processes. Organizer: Alison Etheridge, Oxford University, UK.
12. Interacting Particle Systems. Organizer: Pablo Ferrari, Universidad de Sao Paulo, Brazil.
13. Probability Methods in Mathematical Physics. Organizer: Tadahisa Funaki, University of Tokyo, Japan.
14. New directions in survival analysis. Organizer: Richard Gill, University of Utrecht.
15. Markov chain Monte Carlo: theory and applications. Organizer: Peter J. Green, University of Bristol.
16. Computational Methods in Semiparametric Statistics. Organizer: Piet Groeneboom, Delft University of Technology, The Netherlands.
17. Probability and Statistics in the Earth Sciences. Organized by Peter Guttorp, University of Washington, Seattle, USA.
18. Probability in Infinite Dimensions, Applications and Related Topics. Organizer: Jim Kuelbs, University of Wisconsin, Madison, USA.
19. Topics in large deviations and limit theorems. Organizer: Jim Kuelbs, University of Wisconsin, Madison, USA.
20. Sharp Probability Inequalities and Applications. Organizer: Stanislaw Kwapień, Warsaw University, Poland.
21. Model Selection. Organizer: Pascal Massart, Université de Paris-Sud, Orsay, France.
22. Semiparametric Models and Applications. Organizer: Susan Murphy, University of Michigan, Ann Arbor, USA.
23. Probability and Statistics in Evolutionary Genetics. Session Organizer: Michael Newton, University of Wisconsin, Madison, USA.
24. Nonstationary Spatial Processes. Organizer: Doug Nichka, National Center for Atmospheric Research, Boul-

der, Colorado, USA.

25. Random Graphs and Tilings. Organizer: Robin Pemantle, Ohio State University, Columbus, USA.
26. Graphical Markov Models and Their Applications in Multivariate Statistical Analysis. Organizer: Michael D. Perlman, University of Washington, Seattle, USA.
27. Functional Data Analysis. Organizer: James O. Ramsay, McGill University, Montréal, Canada.
28. Stochastic Analysis. Organizer: Michael Röckner, Universität Bielefeld, Germany.
29. Statistical Genetics. Organizer: Kathryn Roeder, Carnegie-Mellon University, Pittsburgh, Pennsylvania, USA.
30. Wavelets in Statistics. Organizer: R. von Sachs, Université Catholique de Louvaine, Belgium.
31. Applications of Probability in Finance and Insurance. Organizer: W. Schachermayer, Technische Universität Wien, Austria.
32. Mining and Analysis of Large/High-Dimensional Data. Organizer: David W. Scott, Rice University, Houston, Texas, USA.
33. Statistics in Finance. Organizer: Neil Shephard, Nuffield College, Oxford, UK.
34. Random Sets and Statistics of Shape. Organizer: Christopher G. Small, University of Waterloo, Canada.
35. Extremes Values in Statistics and Probability. Organizer: Richard Smith, University of North Carolina, Chapel Hill, USA.
36. Non Parametric Curve Estimation. Organizer: Vladimir Spokoiny, Universität Würzburg, Germany.
37. Symbolic Computation in Statistics. Organizer: James Stafford, University of Toronto, Canada.
38. Applications of Empirical Processes. Organizer: Sara van de Geer, Leiden University, The Netherlands.
39. Point Processes and Fractal Dimensions. Organizer: David Vere-Jones, Victoria University of Wellington, New Zealand.

### General Information

The Conference will take place in the City of Guanajuato from Monday 15th to Saturday 20th, having registration on Sunday the 14th, 2000. Guanajuato is the capital of the State of Guanajuato, site of CIMAT (Research Center for Mathematics) and the University of Guanajuato.

The Conference World Wide Web site can be accessed at

<http://www.Bernoulli-ims-2000.org.mx>. Updated information regarding fees, accommodations and program details are available on this page. The information may be also requested via email by sending a message to [info@Bernoulli-IMS-2000.org.mx](mailto:info@Bernoulli-IMS-2000.org.mx) or [wc2000@cimat.mx](mailto:wc2000@cimat.mx) with the phrase Guanajuato-2000 stated in the subject heading.

### About Guanajuato

Guanajuato City is located about 350 km (220 miles) NW of Mexico City. The City of Guanajuato (“*gwah-na-gwah-toe*”) dazzles the visitor with the charm of its relaxed atmosphere, its cobblestone streets, its picturesque plazas and its underground streets. While remaining a small provincial city, Guanajuato boasts a great number of attractions, from beautiful colonial buildings to modern muse-

ums, from silver mines to a university. Guanajuato's altitude, 2000 meters (6000 feet), ensures that the climate is always pleasant. The rainy season is from June to September, which generally means a shower in late afternoon. Nights are cool in winter, but otherwise you should expect temperatures around 20° C (68 F). Temperatures in May average 22° C, with highs averaging 32° C and lows 13° C. Guanajuato is a famous international tourist destination. American, Continental, Mexicana, Aeromexico, TAESA, and Aerocalifornia have direct flights from major U.S. cities to the León-Guanajuato International Airport. From Mexico City there are daily flights to the León-Guanajuato International Airport with Aeromexico, Aerocalifornia and TAESA airlines. It is also possible to arrive to Guanajuato from Mexico City by comfortable buses (4½ hours trip). We advise participants to make flight reservations as soon as possible since there are several meetings taking place during that time in the region.

Aeromexico offers congress participants a 10 % discount on some airfares, extensively to spouse and children aged 12–20. Also United Airlines offers

5 % discount on some airfares. You have to mention that you will be attending the Congress.

### **Social Program**

Several activities are being planned for the enjoyment of conference attendees and accompanying persons. These include a Conference Dinner held at the gardens of Ex Hacienda San Gabriel de Barrera (set in a colonial-period mining estate) and cultural events, one to be held at Guanajuato's most renowned theater, the Teatro Juarez (stunning in its ornate, elegant, mixed style). Day trips for accompanying persons are possible to nearby cities like Dolores Hidalgo, Leon and San Miguel de Allende.

### **Further Information**

on Registration, Abstract Submission and Accommodation can be found on the web site at

<http://bernoulli-ims-2000.org.mx>.

IMS/Bernoulli Society Meeting

CIMAT Apdo.

Postal 402

Guanajuato

GTO. 36000 Mexico

Phone +52 473 27155

fax: +52 473 24511

## **ISBA2000: The 6th World Meeting of the International Society for Bayesian Analysis May 28–June 1, 2000, Hersonissos (Crete)**

ISBA2000 will focus on research and interdisciplinary applications of Bayesian statistics. The meeting will feature over 100 presentations on diverse topics ranging through theory, methodology and many application areas, as well as tutorial presentations for new researchers. Some of the formal presentation sessions will be devoted to the specific meeting theme, emphasising Bayesian methods in government, official statistics and public policy. Submission of proposals for talks and posters

are welcome, with an initial deadline of October 1 1999. Further details are available at the ISBA2000 web site. ISBA2000 is pleased to announce co-sponsorship from Eurostat and the Association of Balkan Statisticians.

### **Further Information**

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

[imsba2000/imsba2000.html](http://www.bayesian.org/imsba2000/imsba2000.html)

or contact the Scientific Committee Chair Mike West (email: [mw@stat.duke.edu](mailto:mw@stat.duke.edu))

## **ACCURACY 2000—4th International Symposium on Spatial Accuracy, Assessment in Natural Resources and Environmental Sciences July 12-14, 2000, Amsterdam (The Netherlands)**

### **Aim and Scope of the Symposium**

Within the environmental sciences—whether it be hydrology, soil science, geomorphology, oceanography, forestry, climatology, geo-ecology or any other branch that one may think of—much use is made of spatially distributed data. These data, frequently stored as maps in a spatial data base or Geographical Information System (GIS), are rarely, if ever, truly free of error. Furthermore, these data are often used as inputs to various models of environmental processes that are themselves also subject to un-

certainty. Spatial statistics and stochastic systems theory offer methodologies to handle these uncertainties, but the successful implementation and application of these methods requires the joint efforts of scientists from various disciplines.

The aim of this Symposium is to bring together experts from environmental science, spatial statistics and geographic information science to further develop theory and practical application of methods for handling spatial uncertainty in the environmental sciences.

Building on the success of the previous symposia in Williamsburg, Virginia (1994), Fort Collins, Colorado (1996) and Quebec City, Canada (1998), this Symposium is THE international meeting place for experts taking special interests in the assessment, modelling, visualisation and propagation of uncertainty in spatial data and spatial process models.

### Topics

- Development of error-sensitive GIS
- Theory and application of uncertainty propagation in spatial modelling
- Handling uncertainty in remotely sensed images and classification
- Design-based and model-based approaches to spatial uncertainty assessment
- Stochastic spatial simulation
- Handling spatio-temporal uncertainty
- Spatial uncertainty modelling for categorical data
- Visualization of spatial uncertainty
- Effect of aggregation and generalization on spatial uncertainty assessment
- Incorporating uncertainty in spatial decision making
- Inverse estimation techniques for calibrating spatial process models
- Simultaneous handling of positional and attribute uncertainty
- Discretization and up-scaling effects for global environmental models
- Model validation with imperfect ground truth data

### Scientific Advisory Board

M. Bierkens (Wageningen), R. Congalton (New Hampshire), N. Cressie (Ohio), R. Czaplewski (USDA), P. Fisher (Leicester), I. Florinsky (Moscow), R. Gill (Utrecht), J. Gomez-Hernandez (Valencia), M. Goodchild (California), P. Goovaerts (Michigan), A. Jenkins (Wallingford), M. Kühl (Dresden), A. Lewis, K. Loague (Stanford) K. Lowell (Laval), A. McBratney, (Sydney), T. Mowrer (USDA), M. Oliver (Reading), A. Olsen, W. Shi (Hong Kong), St. Stehman (New York), A. Stein

(Wageningen), M. van Meirvenne (Gent), M. Voltz (Montpellier)

### Meeting Format

Each day will start with a plenary session featuring a keynote speaker and selected contributed papers. The Symposium will then break into parallel sessions. In addition, the provisional programme comprises a poster session and a forum discussion. Throughout the Symposium, much effort will be placed on creating a convivial atmosphere for informal discussion and personal contacts.

The Symposium will be limited to 250 participants.

### Workshop

In collaboration with the International Society of Photogrammetry and Remote Sensing (ISPRS), a workshop entitled "Handling Uncertainty in Remotely Sensed Data for Natural Resource Management" will be held immediately after the Symposium on Saturday July 15.

The workshop is also open to delegates of the XIXth Congress of the ISPRS, which will be held in Amsterdam from July 16 to 23, 2000.

<http://www.itc.nl/isprs>

### Further Information

For more information concerning registration and other practical matters:

Conference Office

Universiteit van Amsterdam

PO Box 19268

1000 GG Amsterdam phone: +31 20 525 4791

The Netherlands fax: +31 20 525 4799

email: [congres@bdu.uva.nl](mailto:congres@bdu.uva.nl)

For more information on the scientific program:

Spatial Accuracy Symposium

ICG Office

Nieuwe Prinsengracht 130

1018 VZ Amsterdam phone: +31 20 525 7425

The Netherlands fax: +31 20 525 7431

email: [accuracy@frw.uva.nl](mailto:accuracy@frw.uva.nl)

Up-to-date information can also be obtained at:

<http://www.gis.wau.nl/Accuracy2000>

### International Conference on Mathematical Statistics STAT'2000 August 21–25, 2000, Szklarska Poręba (Poland)

The International Conference on Mathematical Statistics STAT'2000 will be held as a continuation of a series of international conferences (including among others Wisła'76-79, Olsztyn'88, Poznań'93, Jachranka'96 and Łagów'98) organized on behalf of the Polish statistical community.

### Organizers

The Institute of Mathematics of the Wrocław University of Technology and the Institute of Mathematics of the Polish Academy of Sciences.

### Topics

The main topics considered for the conference are applied statistics, multivariate analysis, nonpara-



metric and semiparametric methods, robust inference, survival analysis. The aim is to bring together active researchers and practitioners in various fields of contemporary statistics to enable their interaction. The emphasis will be on methodology, applicability and providing insight into the use of the methods presented.

#### **Scientific Program Committee**

T. Bednarski, R. Kala, T. Ledwina (Chairman), J. Mielniczuk and T. Rychlik.

#### **Organizing Committee**

A. Janic-Wróblewska, A. Jokiel-Rokita, R. Magiera (Chairman), Z. Porosiński and M. Wilczyński.

#### **Conference Program**

There will be invited lectures, contributed papers and poster sessions. Contributions will be in English.

#### **Invited Speakers**

The following invited speakers have already agreed

### **21st ISCB Meeting—Annual Meeting of the International Society for Clinical Biostatistics September 4–8, 2000, Trento (Italy)**

The meeting is organized by Ettore Marubini (Milan, Scientific Committee Chair) and Maria Grazia Valsecchi (Verona, Local Chair).

### **Algoritmy 2000—Conference on Scientific Computing September 10–15, 2000, Vysoke Tatry (Slovakia)**

#### **General Information**

ALGORITMY (Algorithms) represents the oldest Central-European series of international meetings devoted to applied mathematics and computer science.

15th ALGORITMY 2000 conference is going to be held in a beautiful resort in the High Tatra Mountains (Vysoke Tatry) and will be organized by Slovak University of Technology, Bratislava in cooperation with Comenius University, Bratislava and other institutions.

The conference will be devoted to computational realizations and analysis of the algorithms solving real problems from all branches of science, technology, medicine, finance and other applications. The main topics include methods of

- computational fluid dynamics
- nonlinear heat and mass transfer
- modeling of flow in porous media
- simulations of free boundary phenomena

to participate:

O. O. Aalen (Oslo), A. C. Atkinson (London), S. Csörgő (Szeged), J. Faraway (Ann Arbor), J. Franz (Dresden), R. D. Gill (Utrecht), W. C. M. Kallenberg (Enschede), U. Kamps (Oldenburg), W. J. Krzanowski (Exeter), Y. Ritov (Jerusalem), P. K. Sen (Chapel Hill), J. Thompson (Houston), R. Tomassone (Paris).

#### **Location**

Szklarska Poręba is a holiday resort attractively situated in a mountainous area in south-western Poland, about 100 km from Wrocław. A free bus connection will be provided from Wrocław to the conference site.

#### **Further Information**

Those possibly interested should email [stat2000@neyman.im.pwr.wroc.pl](mailto:stat2000@neyman.im.pwr.wroc.pl)

The first announcement including costs and important deadlines will be available at

<http://neyman.im.pwr.wroc.pl/~stat2000/>

#### **Further Information**

<http://www.gelso.unitn.it/~iscb2000>

email: [ISCB2000@gelso.unitn.it](mailto:ISCB2000@gelso.unitn.it)

fax: +39 0461 231044

- computational finance
- image processing and computer vision
- data analysis and pattern recognition
- scientific visualization
- software for scientific computations.

Special attention is given to the robust numerical, statistical and visualization methods implemented on modern computer architectures.

Refereed proceedings of plenary lectures and contributions of participants will be published. You or your colleagues are invited to submit a paper related to the topics of the conference.

#### **Scientific Program Committee**

E. Baensch (Bremen), P. Brunovsky (Bratislava), G. Dziuk (Freiburg), W. Jäger (Heidelberg), J. Kacur (Bratislava), J. Komornik (Bratislava), G. Meyer (Atlanta), K. Mikula (Bratislava), M. Rumpf (Bonn), J. A. Sethian (Berkeley)

## Social Program

We plan also complementary activities:

- hike to Krivan (2494), the most impressive Slovak peak
- visit of the eastern Slovak historical town Levoca (with world highest wooden altar of Majster Pavol) and Spissky hrad (largest castle complex in Karpaty)
- visit of the open-air museum of Slovak traditional village architecture in Pribilina (skanzen, 2 km from the hotel)

## TMR Network in Spatial and Computational Statistics Open Conference: Spatial and Computational Statistics September 17–21, 2000, Ambleside (UK)

This open conference (BS-sponsored) will cover the following broad themes in spatial and computational statistics:

- Spatial point processes and stochastic geometry
- Non-linear geostatistical models and methods
- Latent models
- Markov chain Monte Carlo theory and methods
- Extreme value theory and methods

To promote close interaction amongst participants, there will be *no parallel sessions*.

### Invited speakers

Julian Besag (University of Washington, Seattle, USA) Laird Breyer (Aalborg University, Denmark/Lancaster University, UK) Richard Davies (Colorado State University, USA) Merrilee Hurn (University of Bath, UK) Hein Putter (University of Amsterdam, The Netherlands) Martin Schlather (Bayreuth University, Germany) David Spiegelhalter (MRC Biostatistics Unit, Cambridge, UK) Dietrich Stoyan (Freiberg University, Germany) Richard Tweedie (University of Minnesota, USA) Rasmus Waagepetersen (Chalmers University, Swe-

## Organizing Committee

P. Frolkovic, A. Handlovicova, M. Komornikova, Z. Kriva, K. Mikula, M. Minarova, P. Struk, D. Sevcovic

### Further Information and Registration

<http://www.math.sk/alg2000>

ALGORITHMY 2000

Department of Mathematics and Descr. Geometry  
Slovak University of Technology  
Radlinskeho 11  
813 68 Bratislava  
Slovakia

email: [alg2000@vox.svf.stuba.sk](mailto:alg2000@vox.svf.stuba.sk)

den) Jonathan Wakefield (University of Washington, Seattle, USA)

In addition the programme will include about 25 half-hour slots for contributed oral presentations, and an evening poster session.

### Venue

Charlotte Mason College is located in the centre of Ambleside, which is itself set in the heart of the beautiful English Lake District.

### Further Information

Further details and the on-line registration form are available at

[www.maths.lancs.ac.uk/](http://www.maths.lancs.ac.uk/)

[~schlathe/ambleside.html](http://www.maths.lancs.ac.uk/~schlathe/ambleside.html)

*the number of participants is limited to 140, and early registration is advised.*

For any queries not answered on the web-site, please contact

Cathy Thomson                      phone: +44 1524 594622

email: [c.thomson@lancaster.ac.uk](mailto:c.thomson@lancaster.ac.uk),

## ► BS 2000 Symposium on Defining the Science Stochastics. In Memoriam Jakob Bernoulli October 4–6, 2000, University of Würzburg (Germany)

The Symposium aims at defining the Science Stochastics, at describing its role towards other sciences and towards society, and at outlining necessary requirements for a professional education.

It is planned to have sessions on the history of stochastics, on competing approaches and terminology, and on the future of stochastics:

- History of Stochastics
  1. Bernoulli and the Ars Conjectandi
  2. Laplaces' Philosophical Essay on Probability
  3. Kolmogorov's Axioms
- Development of Stochastics
  1. Controversies in Stochastics
  2. Dogmatism in Stochastics

- 3. Terminology in Stochastics
- Presence and Future of Stochastics
  - 1. State of Stochastics
  - 2. Defining Stochastics
  - 3. Future of Stochastics

**Program Committee**

E. v. Collani, Würzburg  
 V. V. Kalashnikov, Moscow  
 M. Dumitrescu, Bucharest

**Local Organizing Committee**

Elart von Collani, Rainer Göb (University of Würzburg)

**Further Information**

**Workshop on Mathematical Finance  
 October 5–7, 2000, Konstanz ( Germany)**

Interested colleagues and their pre- and post-doc students are invited to attend the conference and to submit an abstract for a lecture on their recent research.

**Further Information**

Please visit the Web-site  
[http://www.mathe.uni-konstanz.de/  
 ~kohlmann/conference.htm](http://www.mathe.uni-konstanz.de/~kohlmann/conference.htm)

or contact either

[http://statistik.mathematik.uni-wuerzburg.de/  
 veranstaltungen.index.html](http://statistik.mathematik.uni-wuerzburg.de/veranstaltungen.index.html)

Participation in the Symposium will be by invitation. However, anyone interested in attending the Symposium is welcome to contact the organizer.

**Organizer:**

Elart von Collani  
 Volkswirtschaftliches Institut  
 University of Würzburg  
 Sanderring 2  
 D-97070 Würzburg      phone: +49 931 312969  
 Germany                      fax: +49 931 312908  
    email: collani@mathematik.uni-wuerzburg.de

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 Germany  
    email: michael.kohlmann@uni-konstanz.de  
 or V. Weisser (secretary)  
    phone: +49 7531 88 2131  
    email: veronika.weisser@uni-konstanz.de

► **Bernoulli 2000 Symposium on Neural Networks and Learning  
 October 25–27, 2000 (tentative), Wako-shi, Saitama (Japan)**

In order to celebrate the Mathematical Year 2000, The Bernoulli Society is organizing a number of Symposia in rapidly developing research areas in which probability theory and statistics can play important roles.

Brain science in the wide sense will become more and more important in the 21st century. Information processing in the brain is so flexible and its learning ability is so strong that it is indeed a challenge for information science to elucidate its mechanisms. It is also a big challenge to construct information processing systems of brain style.

The present Symposium focuses on learning ability of real and artificial neural networks and related systems from theoretical and practical points of view. Probability theory and statistics will play fundamental roles in elucidating these systems, and they in turn fortify stochastic and statistical methods.

Theories of neural learning and pattern recognition have a long history, and lots of strong new ideas are emerging currently. They have also practical appli-

cability in the real world problems. Now is a good time to review all of these new ideas and methods and to discuss future directions of developments.

We will invite worldwide top class researchers in these fields and discuss the state-of-the-art of neural networks and learning as well as future directions of this important area. Participation is by invitation only. We are expecting 50–80 participants from all over the world.

The Symposium is sponsored by the Bernoulli Society, the RIKEN Brain Science Institute, and the Institute of Statistical Mathematics.

**Topics**

Learnability and generalization error, generating and combining ensembles of learners, support vector machines, information geometry of neural networks, statistical inference and neural networks, conditional dependency and graphical models, statistical-physical theory of learning.

**Organizing Committee**

Shun-ichi Amari (Chair), RIKEN, Japan

Leo Breiman, Berkeley, USA  
Shintou Eguchi, Statistical Mathematics, Japan  
Michael Jordan, California Berkeley, USA  
Noboru Murata, RIKEN, Japan  
Mike Titterton, Glasgow, UK  
Vladimir Vapnik, AT&T, USA

#### Venue

BRIKEN Brain Science Institute (Wako-shi, Saitama, Japan; suburb of Tokyo)

#### Contact

Shun-ichi Amari, email: amari@brain.riken.go.jp

► **BS 2000 Conference in Financial Mathematics  
Quantitative Methods in Finance  
December 4–9, 2000, Sydney (Australia)**

This conference is a joint event, comprising both the Quantitative Methods in Finance 2000 Conference and the Bernoulli Society Conference in Financial Mathematics.

#### Organizers

Carl Chiarella (School of Finance and Economics) and Eckhard Platen (School of Mathematical Sciences), University of Technology, Sydney

#### Focus

The focus of QMF&BS2000 will be on statistical and filtering methodologies in risk management. Topics to be covered during the conference include pricing and hedging with an emphasis on credit risk, liquidity risk, and energy derivatives.

#### Program

Modelling and Statistical Methods (Dec. 5)

Filtering and Calibration (Dec. 6)

Credit Risk and Derivatives (Dec. 7)

Risk Management (Dec. 8)

Specialized workshops will be offered on December 4, and 9.

Conference social events will include Cocktails by the Sea, a night at the Sydney Opera House, a Sydney Harbour Cruise, and a Conference Dinner. December is the best time of the year to visit many parts of Australia, so take the opportunity to plan

a tour with your travel agent.

#### Plenary Speakers (expected)

Y. Ait-Sahlia, O. Barndorff-Nielsen, C. Chiarella, E. Eberlein, R. Elliott, R. Frey, R. Gallant, W. Härdle, C. Heyde, J. Jacod, P. Kofman, A. Novikov, E. Platen, W. Runggaldier, M. Sørensen, G. Tauchen, J. van der Hoek

#### Participants

We expect over 150 international and local delegates from both commercial institutions and academia. There will be selected keynote talks and, as in past QMF conferences, a number of contributed parallel presentations.

#### Further Information

Please visit our Web-site

[www.bus.uts.edu.au/](http://www.bus.uts.edu.au/)

[fin&econ/conferences/qmf2000](http://www.bus.uts.edu.au/~fin&econ/conferences/qmf2000)

or contact

Kate Mathews

School of Finance and Economics

University of Technology

PO Box 123

Broadway, 2007

Sydney

Australia

phone: +61 2 9514 7737

fax: +61 2 9514 7711

email: QMF@uts.edu.au

**International Conference on  
Recent Developments in Statistics and Probability and Their Applications  
December 30, 2000 – January 3, 2001, New Delhi (India)**

This International Indian Statistical Association (IISA) Biennial Conference is organized by IISA India Chapter in collaboration with other Indian organizations.

#### Further Information

[http://www.stat.ohio-state.edu/](http://www.stat.ohio-state.edu/~hnn/IISA.html)

[~hnn/IISA.html](http://www.stat.ohio-state.edu/~hnn/IISA.html) Kanwar Sen

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University of Delhi

Delhi-110007

India

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phone: +91 11 7256671 (office)

email: dustats@del3.vsnl.net.in

## 9. Conferences 2001

► **BS 2000 Workshop on Stochastics and Quantum Physics,  
World Mathematical Year Special Workshops  
February 5–9, 2001 (tentative), Eindhoven (The Netherlands)**

### Themes

The aim is to bring together physicists and mathematicians interested in stochastic aspects of quantum mechanics, especially as connected to recent developments in quantum computing, cryptography, communication. We will pay attention to stochastic process models in quantum optics, decoherence and more generally, of continuous time observation of a quantum system; to statistical inference on quantum states, to quantum tomography and to other approaches to quantum state reconstruction; and to the interplay between ‘quantum probability’ and ‘classical probability’ modelling.

### Format

The meeting will take the form of a small-scale semi-closed workshop of about four days with around 40 participants. We hope to provide substantial financial support for many of the participants. Appended to this, as will be the case for the other World Mathematical Year meetings organized by the Bernoulli Society and other organizations, will be a more large-scale, open and public-oriented one

day *happening* with further speakers, to bring to the public the role of mathematics in the modern world. On this day we will pay attention to philosophical aspects (locality, measurement problem), cosmology, and to societal/technological implications (quantum computers etc).

### Organizers

Richard D. Gill (Utrecht, email: [gill@math.uu.nl](mailto:gill@math.uu.nl))  
Hans Maassen (Nijmegen, email: [maassen@sci.kun.nl](mailto:maassen@sci.kun.nl))

### About EURANDOM

EURANDOM is a recently founded European institute for research in statistics, probability, and stochastic operations research. Roughly 25 young researchers at any moment have post-doctoral fellowships there, and it hosts frequent workshops and conferences on topics connected to its research programme. EURANDOM is supported by the Dutch ministry of science and education, and located on the campus of the Eindhoven University of Technology.

<http://www.eurandom.nl>

**SPA '01—27th International Conference on Stochastic Processes and their Applications  
July 9–14, 2001, Cambridge (UK)**

Information: J.R. Norris.

Email: [spa27@statslab.cam.ac.uk](mailto:spa27@statslab.cam.ac.uk)

*Harry Pavlopoulos and Ed Waymire in Athens (Greece)*

## 10. Summary of Forthcoming BS Events

- **5th World Congress 2000 (Joint with IMS)**  
May 15–21, 2000, Guanajuato, Mexico  
Venue: Guanajuato.  
Information: IMS/Bernoulli Society Meeting CIMAT, Apdo Postal 402, Guanajuato, Gto. 36000, Mexico. Fax +52 473 24511, email: wc2000@fractal.cimat.mx  
Chair of the Programme Committee: Evariste Giné, University of Connecticut, Storrs Mansfield, CT 06269-3009, USA. Fax: +1 203 486 4238, email: gine@uconnvm.uconn.edu
- **ACCURACY 2000—4th International Symposium on Spatial Accuracy, Assessment in Natural Resources and Environmental Sciences**  
July 12-14, 2000, Amsterdam, The Netherlands  
Venue: De Rode Hoed, Keizersgracht 100–104, Amsterdam  
Information: Conference Office, Universiteit van Amsterdam, PO Box 19268, 1000 GG Amsterdam, phone: +31 20 525 4791, fax: +31 20 525 4799, e-mail: congres@bdu.uva.nl  
or:  
Spatial Accuracy Symposium, ICG Office, Nieuwe Prinsengracht 130, 1018 VZ Amsterdam, phone: +31 20 525 7425, fax: +31 20 525 7431, e-mail: accuracy@frw.uva.nl
- **TMR Network in Spatial and Computational Statistics**  
Open Conference: **Spatial and Computational Statistics**  
September 17–21, 2000, Ambleside (UK)  
Venue: Charlotte Mason College, Ambleside, UK  
Information: Cathy Thomson, phone: +44 1524 594622, e-mail: c.thomson@lancaster.ac.uk
- **SPA'01**  
27th International Conference on Stochastic Processes and their Applications  
July 9–14, 2001, Cambridge, UK  
Venue: Cambridge University  
Information: J.R. Norris. Email: spa27@statslab.cam.ac.uk
- **The 23rd European Meeting of Statisticians**  
August 13–19, 2001, Funchal, Madeira Island, Portugal
- **ISI'2001**  
53rd Biennial Session ISI  
August 22–30, 2001, Seoul, Korea
- **SPA'02**  
28th International Conference on Stochastic Processes and their Applications  
July 1–5, 2002, Melbourne (Australia)  
Information T. Brown. Email: T. Brown@ms.unimelb.edu.au
- **The 24th European Meeting of Statisticians**  
August 19–23, 2002, Prague, Czech Republic

## 11. Who is Who in the Bernoulli Society

### Officers

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