5. Reports on Recent Activities

"Chance" (Der Zufall)
Meeting of the German Academy of Natural Scientists LEOPOLDINA, co-sponsored by the Bernoulli-Society
April 17-18, 1998, Halle/Saale (Germany)

(See also the announcement in Bernoulli News **4 (1)** 1997, p. 9.)

The following questions were treated in 10 lectures and in animated discussions.

- Which random phenomena play a basic role in nature and are currently the subject of interest in the natural sciences (including economics)?
- To which extent are natural scientists aware of this role?
- Which stochastic methods do they use?
- What are the recent important results in this direction?

The lectures covered special topics from various fields: Earth sciences (evolution of the earth); Astronomy (cosmology); Physics (statistical mechanics, quantum mechanics); Chemistry (polymeres); Biology (molecular evolution, human genetics); Medicine (epidemiology); Economics (financial and insurance markets); Computer sciences (algorithms); Statistics (resampling).

It turned out that the answers to the questions above were much less obvious and simple than expected, and the time allotted to the discussions, although ample (125 minutes) finally did not suffice.

All lectures will be published in Nova Acta Leopoldina (in German).

Klaus Krickeberg, Paris (France)

Sixth Valencia International Meeting on Bayesian Statistics
May 31 – June 4, 1998, Valencia (Spain)

Since 1979, a meeting devoted to Bayesian Statistics, the Valencia International Meeting on Bayesian Statistics, has been held about every four years in the State of Valencia, Spain. Organized by the Universidad de Valencia, and co-sponsored by and the International Society for Bayesian Analysis (ISBA) and the Bernoulli Society for Mathematical Statistics and Probability, the Sixth Valencia International Meeting on Bayesian Statistics took place in Alcossebre from Sunday May 31 to Thursday June 4, 1998. The Meeting is probably the single most important venue for the exchange of ideas about Bayesian statistics and related topics, and was attended by about 500 delegates. The numbers attending have dramatically increased from previous years and include not only specialist statisticians but also others whose work has uncertainty as an important ingredient.

The invited programme featured thirty talks, run in two parallel sessions. Each invited talk was followed by a discussion initiated by two invited comments. Contributed papers were presented in four plenary poster sessions. These nightly poster sessions traditionally constitute one of the strongest points of the conference, because they provide a venue for the latest developments to be presented and discussed in an informal discussion. Over 250 posters were presented. It is not uncommon to observe several clusters of statisticians still debating scientific points at 2 a.m. in the poster session room. The Conference was preceded by a one-day postgraduate tutorial seminar on Basic Concepts in Bayesian Statistics, consisting of four lectures, given by James O. Berger, José M. Bernardo, A. Philip Dawid and Adrian F. M. Smith. Proceedings of the conference will be published by Oxford U. P. Earlier volumes have provided a fundamental vehicle for the dissemination of Bayesian techniques in a variety of disciplines. The tremendous number of citations generated by them underscores their scientific relevance. The conference program and information about the proceedings are available at the web site

`http://www.stat.duke.edu/conferences/VALENCIA/bernardo/valenciam.html`

Giovanni Parmigiani, Duke (USA)

SPA98—The 25th Conference on Stochastic Processes and their Application
July 5-11, 1998, Corvallis (OR)

The 25th SPA conference was held on the campus of Oregon State University in Corvallis this past July 5-11, 1998 with funding by the National Security Agency, National Science Foundation, Army Research Office and Elsevier Publishing Company. The conference was very successful owing to excellent presentations by the invited speakers and the exceptional quality of the contributed talks, not to mention the kind cooperation of mother nature in providing a beautiful week of Oregon's dry summer weather. We will describe a few highlights of the conference here, but a conference archive is available on the web for details of the schedule of talks, downloading abstracts, participant list, photos at

`http://osu.orst.edu/dept/math/`

Additional photos from various social events are forthcomming to the web page archive.

Professor Harry Kesten, Cornell University, delivered this year's Elsevier Lecture on "A Mean Field Approach to the Density of Coalescing and Annihilating Random Walks". Professor Mu-Fa Chen delivered a memorial lecture entitled "Recent Story on Spectral Gap" to honor the memory of Dr. Xian-Yin Zhou who died on April 20, 1996 at the age of 32. Dr. Zhou had been selected as an invited speaker at this conference. A special evening public lecture hosted by Mayor Helen Berg of Corvallis, Dean Frederick Horne of OSU College of Science, and Professor John Lee of OSU Department of Mathematics was given on Tuesday evening of the conference by Professor David Heath, Carnegie-Mellon and Cornell Universities, on Financial Derivatives. To mark this 25th Anniversary of SPA a historical overview talk was delivered by Professor Thomas Kurtz, University of Wisconsin, at a special Thursday luncheon meeting of conference participants. The invited and contributed paper sessions were all very well attended each day of the conference.

The conference banquet was a native American style salmon bake at a nearby Oregon winery with music provided by Oregon's Knott Brothers Bluegrass band. This followed a splendid Wednesday afternoon hike to Mary's Peak, the highest point in the Oregon coast range, located just outside Corvallis. The week was capped off with a bon voyage picnic hosted by OSU's Department of Mathematics and joined by participants in OSU's NSF sponsored summer Research Experience for Undergraduates (REU) program.

The Organizers:
Bob Burton, Mina Ossiander, Ed Waymire

WRASS—Warwick Randomised Algorithms and Stochastic Simulation
Tutorial and Workshop, July 26-30, 1998, Warwick (United Kingdom)

This tutorial and workshop took place at the Computer Science department of Warwick University, over the period of July 26-30, 1998. Its purpose was to provide an introduction to (a) the idea of exact or perfect simulation, (b) problems in contention resolution for computer communication networks. It was organized by faculty from Warwick Statistics and Computer Science, and was supported by the UK Engineering and Physical Sciences Research Council, the London Mathematical Society, RAND, and ALCOM, as well as the two organizing departments.

Attendance totalled about 60: divided three ways between invited speakers, PhD students (reflecting the strong commitment of the workshop to training young researchers), and academic researchers. Participants were drawn largely from US and Europe. The tutorial component took up the first 1.5 days, and was composed of careful presentations of perfect simulation (by David Wilson, one of the pioneers of this technique), Markov chain Monte Carlo (Peter Green), contention resolution (Leslie Goldberg), and modern Markov chain theory (Richard Tweedie). After this introduction, the remainder of the workshop was made up of research presentations building on this introductory material.

It was exciting to see how theoretical computer science and probability theory are now interacting at a high technical level, and yet addressing questions which are often intensely visual and simple to state. We expect to hear much more about developments in these areas!

Wilfrid Kendall, Warwick (UK)

7th Vilnius Conference on Probability Theory and Mathematical Statistics
22nd European Meeting of Statisticians
August 12–18, 1998, Vilnius (Lithuania)

The 22nd European Meeting of Statisticians was held in Vilnius, Lithuania in the period August 12-18, 1998. It was held jointly with the 7th Vilnius Conference on Probability Theory and Mathematical Statistics. The chair of the Program Committee was P. Jagers and the chair of the Local Organizing Committee was V. Statulevičius.

The opening ceremony was held in the presence of the President of the Lithuanian Republic. The traditional special invited lectures were given by R. Gill (Opening lecture), N. Reid (Forum lectures), J.-F. Le Gall (Closing lecture), V. Bentkus (Special Vilnius lecture), C. Cutler (IMS lecture). Worthwile noting was also the special session and Round Table Discussion on the role of statistics in emerging democracies and economies of transition (in collaboration with IAOS).

The program included a rich variety of invited talks and contributed papers on more traditional themes like general inference, time series, statistics and probability in the life sciences, probability and statistics in the natural and social sciences, applied probability and probability.

Noel Veraverbeke

This is a translation of an article which already has appeared in Lithuanian in the newspaper "Scientific Lithuania". A. Plikausas has kindly done the task of translating it into English. We publish the unabridged article.

The Vilnius Conference was held in the Vilnius Gediminas Technical University. It is held every 4th or 5th year, this year jointly with the 22nd European Meeting of Statisticians. 362 specialists of probability theory, mathematical and applied statistics from 37 different countries participated in it. Honorary chairman of the Organizing Committee of the conference and the meeting was Prime Minister G. Vagnorius. V. Adamkus, President of Lithuania, took part in the opening ceremony and after official greetings of the participants gave an impressive speech. Not only the Lithuanian mathematicians acknowleged the attitude of President and Government towards science as one of the most important spheres supported by the state. The Government of Lithuania was the principal sponsor of the conference.

Since the First International Vilnius Conference in 1973, this has been the greatest and most significant event organized by the Lithuanian mathematicians and it has its own history and traditions. The Vilnius conferences can be considered a continuation of the famous Berkeley symposia. After the sixth and the last Berkeley symposium in 1969, its organizer J. Neyman suggested to transfer the symposium to Vilnius. That was a weighty enough commendation of the Vilnius probability theory school. The number of participants increased constantly up to the 5th conference and in 1989 it exceeded 600. The significance and role of the first conferences differed but a little from, say, the latter two held in 1993 and this year.

For most mathematicians of Lithuania and the former Soviet Union our first conferences gave a rare opportunity of exchanging the latest information and ideas, entering into personal contacts, communicating with the scientists of Western countries in an informal environment. The papers in scientific journals appear only after one or even several years. That is why one can say that the first conferences were like a slit in the "Iron Curtain" that separated the Eastern and the Western world.

The 6th conference took place in rather a hard time for Lithuania, the summer of 1993. Only 300 participants took part in it. Many scientists from the ex-USSR and other countries of the Eastern bloc had no possibility to attend it due to the lack of financial means. For the organizers it was not so simple a task either to organize a conference on a high enough level to ensure the position of the largest conference in the world on probability theory.

The 7th conference surpassed the former ones in number of the participating countries, this time there were representatives from 37 countries: 37 from Russia, 33 from the USA, 28 from Germany, 21 from both Great Britain and France, etc. One participant each arrived from nontraditional countries such as Cyprus, Mongolia, Kuwait. To tell the truth, the numbers presented are not sufficiently correct since it is not a simple matter to identify a state represented by a scientist. Many scientists (especially from the Eastern countries) are working in other countries.

Joining the 7th Vilnius Conference and the 22nd European Meeting of Statisticians stipulated a larger number of applied works both in statistics and probability theory. 350 reports were made, including 100 invited lectures and 5 plenary lectures. 34 sections were in action. One of the plenary lectures presented the work of the Lithuanian mathematician V. Bentkus who is working in Germany at the moment, and a professor of Bielefeld university F. Goetze, in which the problems of number theory are solved by methods of probability theory. In the opinion of many conference participants, this was an outstanding presentation.

Lithuanian probabilists delivered 55 reports at the Conference and Meeting. After the international expert in mathematical physics G. Jona-Lasinio who was a candidate for the Nobel prize twice, a young Lithuanian mathematician V. Sidoravičius has made a report. L. Giraitis who is working at present in a prestigious scientific institution, the London School of Economics, made one of the major reports at the session "Long-range dependence". In the session of probabilistic number theory, the reports of A. Laurinčikas (Vilnius University) and K. Matsumoto (Nagoya University) drew many specialists' attention. Their works were one more step in the solution of the famous Riemann hypothesis. Most of the Lithuanian scientists worked at the conference successfully which is the best indication of high levels of the Vilnius probability theory and the probabilistic number theory school, which was founded by J. Kubilius and V. Statulevičius.

Lithuanian probabilists as well as statisticians work at present in Brasil, Great Britain, USA, Canada, France, and Germany. Compared to the conference of 1993, some new, rapidly developing fields showed up. One should note here the session of financial and actuarial mathematics. Quite a few works have been published recently in which various financial markets are rather well described by stochastic mathematical models. Mathematical models are widely applied in the activities of insurance companies, too. It is therefore quite natural that mathematicians working in banks and insurance companies also took part in the conference. Thus, side by side with the works in pure probability theory and mathematical statistics, mathematical models in economics, physics, biology, medicine, and other fields were widely considered as well

The Organizers of the conference took a little risky step by including a session on official statistics into the programme and a special "Round table" discussion about the role of statistics in the countries of emerging democracies and economies in transition. E. Vilkas was chairman of the "Round table". We have strong hopes that this discussion, in which Lithuanian statistics-practitioners took an active part and the issues urgent only for Lithuania were probably overstressed a bit, will consolidate the links between the specialists of both theoretical and practical statistics.

It was the Institute of Mathematics and Informatics that did the main organizational job in this as well as other conferences. The Vilnius Gediminas Technical University also was one of the organizers of this international forum and it contributed a lot to prepare for the conference and to ensure rather smooth work of the conference and meeting. On the initiative of the chairman of the Organizing Committee, V. Statulevièius, a honorary member of the committee, rector of the Vilnius Gediminas Technical University E. Zavadskas, and a member of the Organizing Committee, director of the Institute of Mathematics and Informatics, M. Sapagovas, most of the organizational problems were successfully solved.

A book exhibition of the most famous publishers of scientific literature was held during the conference. It gave the opportunity to prescribe to the latest manuals, monographs and journals. The majority of the books exhibited remained at the library of the Institute of Mathematics and Informatics.

It should be emphasised that the Vilnius Conferences on probability theory and mathematical statistics are undoubtedly useful for Lithuanian mathematicians, they promote high level fundamental research, help to enter into new and keep the existing contacts of international cooperation. We have strong hopes that events of this kind will stimulate a deeper interest in science among our youth. As a matter of fact, Lithuania needs qualified specialists (especially in statistics) who could work in the present and newly emerging fields. We hope that in future Lithuania will manage to keep a duly deserved name as a country of "probabilists".

A. Plikausas, L. Saulis, Vilnius (Lithuania)

ICM 1998—International Congress of Mathematicians
August 18–27, 1998, Berlin

It seems pointless to describe here in detail the scientific program of the congress, in particular since it is available, including a free electronic version of the proceedings, at the internet. See

- `http://elib.zib.de/ICM98/`
  for the program in general,
- `http://www.mathematik.uni-bielefeld.de/documenta/`
  for the proceedings including the written versions of the invited talks,
- `http://www.mathematik.uni-bielefeld.de/icm98/`
  for abstracts of contributed talks or posters.

Mathematics at ICM 1998

ICM 1998 was certainly a great success. 3348 registered participants* from 99 countries had the opportunity to choose from twenty one hour plenary lectures, some 160 forty-five minutes invited talks (distributed over 19 sections, ranging from Logic to History of Mathematics) and approximately 1200 contributed fifteen minutes talks or posters. Highlights included, as always at an ICM, the awarding of the Fields medals (to R.E. Borcherds, W.T. Gowers, M. Kontsevich and C.T. McMullen) in recognition of excellent work done in mathematics while being at most forty years old, and the awarding of the Nevanlinna prize (to P.W. Shor) for excellent work done on mathematical aspects of information science. A Special Tribute was awarded to A.J. Wiles for proving Fermat's Last Theorem, being more than forty years old.

As just one example of the excellent organization of this ICM, let me mention that two of the three printed proceedings volumes were distributed to the participants already at the beginning of the congress.

An important special feature of this ICM was a mathematical program intended for a broader public. This included, for example, a very successful Video Math Festival, showing 24 selected videos. (A collection containing 20 of these is published by Springer, a long version of the first prize video, showing how to smoothly turn a sphere outside in, is published by AK Peters.)

It is not possible in this short report to describe the numerous further features of this congress. Probably most, if not all, participants feel very grateful to the organizing committee, headed by M. Grötschel from Berlin, for its superb work. I think that the goal, expressed by F. Hirzebruch at the closing ceremony of ICM 1994 at Zürich, of keeping up with the high standards of its predecessor, was achieved, and I see foward to a comparable achievement by the organizers of

ICM 2002 at Beijing.

Probability and Statistics at ICM 1998

Probability and, quantitatively to a somewhat lesser extent, statistics were well represented at this ICM. (Readers interested in the history of stochastics at previous ICMs, up to Kyoto 1990, are referred to the article by U. Krengel in Vol. 4, No. 2 (1997) of this newsletter, with a correction note appearing in Vol. 5, No. 1 (1998), page 16.)

There were two plenary lectures focussing on stochastics: P. Diaconis gave an entertaining and informative closing lecture ("From Shuffling Cards to ... Modern Markov Chain Theory"). M. Talagrand lectured on his contributions to rigorously obtaining results, some already "known" to physicists, in the theory of "spin glasses". Other plenary talks with some relation to stochastics were given by S. Mallat ("Applied Mathematics Meets Signal Processing"), by G. Papanicolaou ("Mathematical Problems in Geophysical Wave Propagation"), M. Viana ("Dynamics: A Probabilistic and Geometric Perspective"), and by Nevanlinna prize recipient P.W. Shor. The latter described certain fast algorithms, based on quantum mechanics and not yet technically realizable, which compute a result which may be wrong, but will be correct with high probability. This is believed to be of practical interest in cases where correctnes is easy to check, as in integer factorization.

There were twelve invited forty–five minute talks in "our" Section 12 (Probability and Statistics), delivered by D.J. Aldous, M. Bramson, M.I. Freidlin, J.K. Ghosh, F. Götze, P. Hall, I.M. Johnstone, J.-F. Le Gall, D. Siegmund, A.-S. Snitman, B. Tsirelson, and R.J. Williams. Further invited talks with some relation to stochastics (in most cases to probability) were given in Section 2 (Algebra) by A. Shalev, in Section 8 (Analysis) by V. Milman, in Section 9 (Ordinary Differential Equations and Dynamical Systems) by Y. Kifer, in Section 11 (Mathematical Physics) by J.T. Chayes, R.H. Schonmann, and H.-T. Yau, in Section 13 (Combinatorics) by B. Bollobás, in Section 14 (Mathematical Aspects of Computer Science) by M. Ajtai and M. Sudan, and in Section 16 (Applications) by M. Avellaneda, U. Grenander, and by C.S. Peskin.

As already indicated above, the written version of these talks are electronically available for free.

Of the about 80 contributed talks or posters in Probability and Statistics, approximately 55 were probabilistic and the remaining 25 were statistical. (We find about the same proportion, 8 to 4, for the 12 invited talks.)

Stochastics was also represented at the program for the broader public: W. Schachermayer gave a talk on "The Role of Mathematics in Financial Markets".

Attending this ICM was definitely worthwile for any stochastician with some interest in the rest of mathematics.

Lutz Mattner, Hamburg

*At ICMs, these are traditionally called "ordinary members". I do not know who the extraordinary members are: In the proceedings of the Zürich ICM 1994, even the Fields medalists and Paul Erdős are listed among the 2476 ordinary members.

Prague Stochastics'98
August 23–28, 1998, Prague, Czech Republic

Attendant's Report

Organized by the Department of Probability and Mathematical Statistics (Charles University) and the Department of Stochastic Informatics (Academy of Science of the Czech Republic), this conference took place between August 23–28 at Charles University in Prague. It was held as a joint session of the 6th Prague Symposium on Asymptotic Statistics and the 13th Prague Conference on Information Theory, Statistical Decision Functions, and Random Processes. About 250 participants from many countries had the occasion to listen to an interesting program in a nice atmosphere.

The plenary speakers were: M. Šolc (Almamater —A Private Planet of the University; Astronomy and Statistics); Willem R. Van Zwet (On the Shape Theorem for the Supercritical Contact Process); Jana Jurečková (Characterization and Admissibility in Invariant Models); Friedrich Liese (Necessary and Sufficient Conditions for Consistency of Approximate M-estimators in Nonlinear Models); Sándor Csörgő (Testing for the Partial Proportional Hazards Model of Random Censorship); Peter J. Bickel (Non- and Semiparametric Asymptotic Statistics: Can They Be Made to Come Together?) Details of the program can still be found under the www-address

`http://www.utia.cas.cz/stoch98.html`.

The social program included among other activities a celebration of the 650th anniversary of the foundation of Charles University.

Immediately before the conference (August 20–22) a workshop has been held with the title "Perspectives in Modern Statistical Inference Parametrics, Semiparametrics, Nonparametrics". It was organized by J. Jurečková, J. Antoch, I. Horová, and M. Hušková. The list of speakers included Ole E. Barndorff-Nielsen (Quantum Information); Peter Hall (Intentionally Biased Bootstrap Methods); Hira Lal Koul (Estimation of the Dependence Parameter in Regression Models with Long Memory Errors); and Iréne Gijbels (Local Maximum Likelihood Estimation). The coffee breaks and joint lunches gave ample opportunities for discussions.

Andreas Futschik, Vienna (Austria)

Organizer's Report

The conference was held in the year of the 650th anniversary of Charles University. It attracted 260 participants from 35 countries. The scientific programme was organized in 13 sections covering a wide range of stochastics, emphasizing those topics which have been pursued in Prague (asymptotic statistics, biomedical and environmental statistics, econometrics, financial and insurance mathematics, nonparametrics, random fields and processes, statistical information theory, stochastic analysis, stochastic programming, stochastic geometry, structured stochastic models, time series and uncertainty modelling). Two volume Proceedings were issued by the Union of Czech Mathematicians and Physicists and distributed at the registration.

The opening ceremony took place at Carolinum, the historical site of Charles University. On this occasion, five scientists were awarded commemorative medals for their outstanding achievement in the field of their research and for a long-term cooperation with Charles University and the Academy of Sciences:

- Noel Veraverbeke (Limburgs Universitair Centrum)
- Pranab Kumar Sen (University of North Carolina, Chapel Hill)
- Friedrich Liese (Universität Rostock)
- Edward C. van der Meulen (Catholic University of Leuven)
- Milan Mareš (Institute of Information Theory and Automation, Prague).

A concert of chamber music and a small cocktail followed the ceremony.

The social programme also included a get-together party, evening sightseeing by a steamboat on the Vltava River, a half day excursion (there were three different alternatives) on Wednesday afternoon and the conference banquet at the historical centre of Prague. A special excursion to Troja Castle, a baroque chateau in a garden district of Prague, was organized for accompanying persons.

Local donators provided some support for young scientists and students.

Zuzana Prášková, Prague (Czech Republic)