

International Association for Statistical Education



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The Sixth International Conference on Teaching Statistics



Durban, South Africa
7 - 12 July 2002

<http://www.beeri.org.il/icots6/>



ICOTS 6

ICOTS-6 - "Developing a Statistically Literate Society"

Report from the International Programme Committee Executive

ICOTS-6 held in Cape Town (South Africa) from 7 to 12 July 2002, was undoubtedly a great success, both from the organisational and the scientific point of view. The 472 attendants, in fact a large majority of the IASE membership, met for six days, during which they presented their papers and ideas and discussed them in a friendly and quiet way. The superb accommodation of the Holiday Inn Cape Town, at Strand Street, with its comfortable rooms and foyers gave the delegates the possibility to exchange views and to dwell upon their past, present and future projects and activities in a pleasant place. All of this allowed participants the opportunity to strengthen old friendships and to start new ones. The atmosphere was of an active, scientific community open to new fellow members, happy to share their experiences, to receive information and input coming from different sources and suggesting new ideas and projects for the future.

Really, to prepare for this Conference had been a day by day challenge, and has required a long period of work, which begun about 4 years ago. The success of ICOTS-6 is based on a well organised team work, on

the possibility to access the Internet on a wide scale, and on the idea to enhance the paper quality via a voluntarily refereeing system.

In September 1998, the IASE Executive Committee began the process by choosing the Conference theme "*Developing a Statistically Literate Society*" and appointing a team of people to act as the Executive Committee of the International Program Committee (IPC): M. Gabriella Ottaviani (Chair), Brian Phillips (International Organiser and Editor) and Dani Ben-Zvi (Scientific Secretary). After this a group of people were co-opted as members of the International Programme Committee (IPC). Within the IPC, 11 topics were proposed with one, or sometimes two, people appointed as Topic Convenors as indicated below:

- Topic 1. Statistics Literacy (Iddo Gal and Brian Phillips)
- Topic 2. Statistics Education at the School Level (Jane Watson)
- Topic 3. Statistics Education at the Post Secondary Level (Gilberte Schuyten and Allan Rossman)
- Topic 4. Statistics Education/Training and the Workplace (Carol J. Blumberg and René Smulders)
- Topic 5. Statistics Education and the Wider Society (Helen MacGillivray)
- Topic 6. Research in Statistics Education (Carmen Batanero and Joan Garfield)
- Topic 7. Technology in Statistics Education (Laurence Weldon)
- Topic 8. Other Determinants and Developments in Statistics Education (Philip J. Boland)
- Topic 9. An International Perspective on Statistics Education (Vitalis Muba)
- Topic 10. Contributed Papers (Susan Starkings)
- Topic 11. Poster Sessions (Andrew Dale)

In addition Linda Haines (South Africa) was included on the IPC as the Local Organising Committee (LOC) representative.

After presenting an abstract of their topic, each convenor(s) proposed a number of session organisers, each of whom, in turn, presented an abstract of the session and put forward at least three invited paper authors.

The International Programme Committee members have co-operated worldwide, in all continents. So far away in term of physical distance, but so near for the aims of their efforts: to gradually construct an interesting and useful programme showing the best of the activities, studies and research in Statistics Education, in order to work towards "Developing a statistically literate society".

Through the interest of their proposals and the quality of the authors they invited, they ensured the standard of ICOTS-6 to be very high.

This activity required a continual effort for about four years, particularly of the Executive Committee, that had to plan and supervise all the process and to maintain contacts with the Local Organising Committee. Communications were kept and maintained by e-mail. Of enormous assistance were the IPC and the LOC Websites. A very special thanks goes to Dani and Dagan Ben-Zvi, for the wonderful IPC website at <http://www.beeri.org.il/icots6> which they designed and maintained in very trying circumstances. It constantly showed where the Conference preparations were at, what the next steps were and the corresponding deadlines. This site will unfortunately terminate soon, but post-conference information will be available at the IASE homepage: <http://www.cbs.nl/isi/iase.htm> . The LOC Website, designed and maintained by the University of Natal Public Section at the address: <http://icots.itikzn.co.za/> gave all important logistic local information and it proved to be most important in providing information in the unforeseeable relocation of the venue from Durban to Cape Town.

As was mentioned earlier, ICOTS-6 is the first ICOTS where a refereeing system has been proposed to the authors. This was due not only to the request coming from some colleagues who needed their papers refereed for funding purposes, but also from a scientific desire of the Exec and IPC who thought that time had come to improve the quality of the papers presented at the ICOTS Conferences. This no doubt increased the task of the Exec, particularly of Brian Phillips who had to follow the refereeing process, but as Brian Phillips noticed, "The larger than expected response for authors to have their paper refereed was also most heartening". All papers whether refereed or not, underwent an editing process to ensure a quality product.

The papers presented at this Conference were numerous, nearly 300 papers form the Proceedings of ICOTS-6. In fact the IPC Executive Committee decision to produce a CD of ICOTS-6 Proceedings, rather than hard

copy, has been very well received, and the work done by Brian Phillips and his Editorial Board to edit the CD has been epic. In addition some 25 posters were on display throughout the conference.

The scientific products of the Conference consist of:

- the CD of ICOTS-6 Proceedings;
- the ICOTS-6 Abstracts Book;
- the ICOTS-6 Papers for School Teachers.
- the ICOTS-6 Final Programme and Delegate Hand-book
(contains the poster abstracts)

ICOTS-6 Abstract Book is a useful printed guide to the CD. It contains titles and authors of the plenary sessions as well as sessions, titles and authors of the invited and contributed topics. Besides this, it contains the abstracts of all papers listed and an e-mail list of ICOTS-6 authors and organisers.

ICOTS-6 Papers for School Teachers is a peculiarity of ICOTS-6 that put in evidence a further achievement of this successful Conference. In fact, following the suggestions of the IPC Executive Committee, the Local Organising Committee and in particular Jacky Galpin, Delia North and Jacky Scheiber, succeeded in organising a series of events to reach out to local school teachers. As Delia North, chair of the LOC, put in evidence in her ICOTS-6 Local report: "The South African Statistics Association (SASA), Association of Mathematics Educators of South Africa (AMESA), Statistics South Africa and the Department of Education united to present a wonderful programme for local school teachers to become acquainted with basic statistics concepts (many local school teachers have had no previous statistics training) which will soon be part of the new school syllabus in South Africa". "A local teacher session, running for the full duration of the conference, was organised by SASA and AMESA, and ensured that the teachers got sufficient training in statistics to be able to meet the demands of the statistics section of their new school syllabus (to be fully implemented in 2005). The local teacher session was split into two strands, Primary (grades 4, 5, 6) and Senior (grades 7, 8, 9)." ICOTS-6 Papers for School Teachers contains a collection of papers which were selected from all papers presented at the Conference by the ICOTS-6 Local Organising Committee as of special interest to South African Teachers. The 232 pages of the booklet contain the plenary session's papers, the Statistics Literacy papers and 31 papers selected from the other topic sessions.

Many persons have committed themselves to design and organise this conference during the last four years, but no doubt all of this has been worthwhile. A conference like ICOTS only happens because of the commitment of a large number of people from around the world who are prepared to freely give much time and effort. We would like to pay tribute to the great support we received from so many people who helped in making the conference a succes. This includes three IASE Executives from 1995 to 2002, an International Programme Committee of 18 people, many who also worked as Topic Convenors, a Local Organising committee of 11 people, 76 session organisers and a professional events organiser and staff, Sue Bumpsteed Conferences (Pty) Ltd, Lynn Selby, the AV Co-ordinator for her commitment to ensuring the audio visual aspects of the conference worked to perfection and Lynne du Toit of Safari Tours for making sure everyone got there safely and had a great social program. We greatly appreciated the excellent co-operation of well over 300 authors and give special thanks to more than 70 referees who so generously gave of their time and expertise to do such a professional job. We certainly could not have finished with such a quality product without the work of the sub-editors and the CD designers. Furthermore, we wish to thank the Local Organising Committee, especially Jacky Galpin, who were extremely helpful in getting the programme together as well as the many other aspects of hosting the conference. We also express sincere thanks to the 18 sponsors for easing the financial and logistic problems of running such a conference. In closing, we are very happy to say that the many dramatic events which have occurred during the planning of this conference did not deter this brilliant and devoted group of statistics educators from providing all the valuable material and getting to Cape Town for this wonderful occasion. Any statistics educator who did not attend really missed out on a very special occasion.

We think that the IASE should be proud of this event that has contributed to better understand its task and its potentialities in divulging statistics, its teaching/learning, and its usefulness in everyday life. We will be willing to assist those who are now starting the long task of planning for ICOTS-7 in Brazil in 2006.

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ICOTS-6 Cape Town, South Africa July 7-12 2002 Local Report

Delia North (South Africa), Chair Local Organizing Committee

A total of 472 delegates from 54 countries attended the sixth international conference on teaching statistics, held in Cape Town (South Africa) from 7 to 12 July 2002. The many months (actually years!) of hard work by both the LOC and IPC paid rich dividends as all indications are that delegates found the conference organization to be excellent – accommodation, transport, speakers audio-visual requirements, tours and social functions were of the highest standard. The conference was supported by the City of Cape Town and the South Africa government, evident from the fact that, at the Mayoral reception on the Sunday night, the guest speaker was Tami Mseleku, Director General of Education, while the Master of Ceremonies was Pali Lehohla, the Statistician General of SA. In addition, Trevor Manuel, Minister of Finance of South Africa, opened the conference.

A total of 25 posters were on show during the conference – amongst them three posters by South African school children. The children presented their posters on Tuesday and thoroughly enjoyed the excitement of discussing their posters with the many interested delegates. The posters presented by the children were the winning entries in local statistics poster competitions run at a few schools.

A major local thrust for ICOTS-6 was a series of events put in place to reach out to local schoolteachers. The South African Statistics Association (SASA), Association of Mathematics Educators of South Africa (AMESA), Statistics South Africa and the Department of Education united to present a wonderful program for local schoolteachers to become acquainted with basic statistics concepts that will soon be part of the new school syllabus in South Africa. On Saturday a 1-day CensusAtSchool workshop was held in Durban (following the national mathematics school teachers conference which had just ended on the previous day). This workshop was attended by disadvantaged teachers selected from all the provinces in South Africa and focused on the data collection process in the recent CensusAtSchool project in South Africa, as well as demonstrating how to use CensusAtSchool materials in the classroom.

This workshop was repeated in Cape Town on Sunday. The attendees of this CensusAtSchool workshop consisted of international ICOTS delegates, local schoolteachers from the Cape Town area and most significantly, a group of teachers from each province in South Africa, selected by the Department of Education. These teachers include key mathematics co-ordinators from the 9 provinces of South Africa. Aspects of CensusAtSchool from other countries were also presented at both workshops, giving an international perspective to the data sets, which will be made available to all schools in South Africa. A local teacher session, running for the full duration of the conference, was organised by SASA and AMESA, and ensured that the teachers got sufficient training in statistics to be able to meet the demands of the statistics section of their new school syllabus (to be fully implemented in 2005). The local teacher session was split into two strands, Primary (grades 4,5,6) and Senior (grades 7, 8, 9). A workshop approach prevailed throughout and this ensured that the teachers would have adequate materials to use in the classroom. Each teacher received a die, plastic cups and various coloured poker chips and in no time groups were merrily simulating their data and arguing the finer points of probability theory! Other sessions focussed on using details of histograms, charts, plots and other aspects of the school syllabus, as well as interpretation of newspaper articles and other material incorporating statistical concepts. The teachers were very excited to discover the relevance of statistics to all aspects of teaching at school, and in fact to all aspects of life. The local teacher session and the CensusAtSchool workshop was captured on video camera in order to be used in follow-up workshops to be held in the various provinces in South Africa. Presentation of these workshops

was a requirement for funding received by many of the teachers who attended ICOTS-6. Support from SASA and AMESA will assist these teachers in spreading knowledge gained at ICOTS-6. ICOTS-6 certainly gave local teachers the training to assist in creating a statistically literate society in South Africa!

ICOTS Conferences: from the Past towards the Future

Closing speech of Maria Gabriella Ottaviani IPC Chair ICOTS-6, University of Rome "La Sapienza", Italy

The ISI interests in the improvement of statistics education began in 1949, immediately following the Second World War, with the founding of the Committee on Statistical Education. Through this Committee, the Institute itself promoted the university training of statisticians at an international level, while in developing countries the ISI concerned itself with the education of official statisticians. The ISI began paying more attention to teaching statistics in schools following the mid-seventies. In those years, mainly in developed countries, the teaching of mathematics in schools began to change, so that also statistics and probability could find a place within the mathematics programme in pre-university schools. From 1979-1987, the Education Committee, chaired by Professor J. Gani, succeeded in obtaining important results through the creation of diverse "Taskforces". Thanks to these, but also thanks to the willingness and involvement of those in charge of each taskforce, significant initiatives were taken. In 1979, at the International Centre for Statistical Education at Sheffield University, "Teaching Statistics" was first published, one of the most important didactic statistical journals distributed all over the world. Furthermore the International Conferences on Teaching Statistics were initiated in Sheffield in 1982, thanks to L. Råde and V. Barnett. Since then they have continued once every four years, in accordance with the views expressed by the first ICOTS participants, who hoped that "this Conference will be the first of a series of such international conferences on teaching statistics to be held at four-yearly intervals". According to these wishes, ICOTS-2 was held in Victoria (Canada) in 1986 and ICOTS-3 took place in Dunedin (New Zealand) in 1990. The success of the ICOTS demonstrated that statistics teachers felt a strong need to unite, talk and discuss the problems experienced in the course of their daily activities. In the meantime, it gave specialists in epistemology, psychology and statistical education the possibility to expound the results of their research and theories. The importance of these forces was recognised by the ISI at the Cairo Conference in 1991, where the proposal to establish an International Association for Statistical Education (IASE) as a new Section of the ISI was approved by a unanimous vote of the ISI General Assembly. As a consequence of this, the statistical education activities were transferred to the IASE, who had to continue with the ICOTS program. A Transitional Committee, chaired by D. Vere-Jones (1991-1993), took the most important decisions about the venue and organisation of ICOTS-4 in Marrakech (Morocco) in 1994. ICOTS-5 in Singapore, in 1998, was the first ICOTS completely designed and organised by the IASE. The contents of any thematic conference are supposed to evolve and change over time. The ICOTS conference is now 20 years old and 6 meetings have taken place, ICOTS-6 having been held in Cape Town (South Africa) in July 2002. The time has come to analyse if and how a line of thought exists which has developed from 1982 to 2002. To examine carefully the Proceedings of the previous five ICOTS is quite an impossible task as the number of published papers is 783. About ICOTS-6, at October 27, 2001, the date of this analysis, the International Programme Committee website presented 224 invited paper titles. A possible solution to the problem posed comes from statistics itself, in particular from "textual statistics" (Elbert, Salem, Berry, 1998), a field of research helpful to describe, compare and classify sets of texts. The textual analysis has proved to be a useful Ariane's thread in the labyrinth of the six corpora formed by assembling the papers' titles of each ICOTS Conference. In particular the analysis has allowed enlightening that ICOTS-1 was mainly a matter of teachers and teaching, neither the students nor the learning problems being the Conference concerns. At ICOTS-2 students were in more evidence as well as teaching and learning problems. At ICOTS-3 the students were right in the centre. At ICOTS-4 the focus was on the teaching of statistics per se. ICOTS-5 emphasised the necessity to prepare teachers and students in statistics. At ICOTS-6 the focus has been on research. The textual analysis has allowed showing that, from an academic incept due to its strong link with university professors, the Conference moved to deal with teaching/learning problems and came to enlighten students' problems and their performance. Teaching by real data, suitable computer packages, and research methods were emphasised to grasp the concepts of statistics and probability. In higher education the attention was on introductory courses and on courses of applied statistics for students of the experimental sciences. In more recent years, the proposal of instructional models suitable for statistics and probability, and the necessity to assess students have enhanced the interest of ICOTS attendants towards research. However, educational research in statistics and probability has not only a value per se, but is also finalised to help better disseminate and teach the discipline. Consequently the next step to develop might be reflecting on what the statisticians and the statistics education researchers have to offer and to learn from each other as part of a

"sole" community. Statistics education researchers, for example, have shown the characteristics by which statistics may be considered a modern discipline, able to develop some skills needed by modern citizenship. Statisticians as the experts of quantitative research methods may offer their ability to deal with quantitative data observed during statistics education research. Education research in fact pertains to the social research field. As such, true randomised experiments cannot be applied when designing research. This implies that when examining the effects of an instructional strategy, attention must be paid to the internal as well to the external validity of the results. This means that it is necessary to control what are, apart from the treatment, the other possible explanations of the effects obtained within an experiment, as well as to understand the extent to which the obtained effects can be generalised to other populations, settings, and treatment and measuring variables. In other words, statistical education researchers and statisticians have the possibility to work together trying to evaluate the replicability of the experiments done, their reliability, validity, generalisability. It is important for the statisticians, as statistics teachers, to understand what the working relationship between statistics education research and practice is. If statistics teachers have to learn from statistics education research, they need to know what the limits are – in time and place – to the practical generalisation of the results obtained by statistics education researchers, in order to put proposed instructional models and strategies in practice.

References

Lebart, L., Salem, A., & Berry, L. (1998). Exploring textual data. Dordrecht, The Netherlands: Kluwer Academic Publishers.

Ottaviani, M.G. (2002). 1982–2002: from the Past to the Future, in B. Phillips (Editor), (2002) ICOTS 6, Proceedings of the Sixth International Conference on Teaching Statistics, ISBN: 085590 782 7 (CD Rom).

ICOTS 6 Contributed Papers Report

Susan Starkings (UK), Contributed Papers Session Organiser

Over 50 interesting papers were submitted to the contributed paper section of the ICOTS 6 conference held in South Africa. The papers were grouped under the following headings:

- Teaching and learning Statistics Using Electronic Media
- Concepts in Teaching Statistics
- Assessment in Statistics
- Statistics Education for Teachers
- Teaching Statistics at University
- Research into Teaching and Learning Statistics
- Teaching School Children Statistics

It is evident from the contributed sessions that authors have a great deal of knowledge and expertise in the area of statistical education. The diversification of the papers presented, and the imaginative ways in which the authors have constructed these papers is commendable. Some interesting discussions should emerge as a result of the papers presented.

The papers submitted advocated the teaching of statistics as a practical application that linked statistics to a student's everyday life. This entailed students collecting and generating data relevant to their daily interests and experiences and then using these data to construct and test hypothesis. Several authors provided research evidence to support new methods of teaching the subject. The use of technology now plays a prominent role in the papers submitted, with interesting and novel ways of using this technology to enhance learning being demonstrated. Numerous practical examples were elucidated for every level of statistics being taught in educational establishments.

The common themes that emerged, from these papers, were the use of topical and relevant examples; that technology should be used as a tool for data analysis, and that the use of various instructional techniques is beneficial to both teachers and students alike. To sum up, contributors agreed that the learning of statistics should be achieved through doing real life practical problems that bring theory into practice.

IASE Activities at the 54th Session of the ISI,

Berlin, Germany, August 13–20, 2003

Our programme for the 54th Biennial Session of the ISI to be held in Berlin, Germany in August 2003 is now almost complete. Gilberte Schuyten (gilberte.schuyten@rug.ac.be), our IASE representative on the ISI Programme Co-ordinating Committee for Berlin has organised a wide and varied list of topics for Invited Paper Meetings, both those organised by the IASE alone and in conjunction with other ISI Sections and Committees. There is still time to propose contributed papers and we hope to have a good set of education papers in Berlin.

Furthermore, we are organising an IASE Satellite Conference on Statistics Education and the Internet in co-operation with the German Statistical Society, the Section on Stochastics of the German Mathematics Education Association, the Max-Planck-Institute for Human Development, and the Probability and Statistics Interest Group of the German Mathematical Association. The conference is going to be held at the Max-Planck-Institute for Human Development, Berlin. Larry Weldon (weldon@sfu.ca) is Chair of the Scientific Committee and Joachim Engel (engel_joachim@ph-ludwigsburg.de) Chair of the Local Organising Committee. Guidelines and information are provided at the web page (<http://www.ph-ludwigsburg.de/iase/>). The IASE will be supporting some delegates from developing countries in Eastern Europe to attend the conference.

For further information see the ISI 54th Session Web Page <http://www.isi-2003.de/>

ICME-10

The Tenth International Congress on Mathematical Education, which will be held in Copenhagen, Denmark, July 4–11, 2004 (ICME-10 web site: <http://www.icme-10.dk/>). Conversations are being held with Mogens Niss, the chief organiser of ICME-10, to help in organising some statistical education activities during the conference, immediately before or after ICME-10. We will also celebrate our next IASE Round Table Conference at a location close to Copenhagen. The theme of the conference will be "Curricular Development in Statistics Education" and Gail Burrill (gburrill@nas.edu) will be the Conference Chair.

IASE 2004 Research Round Table on Curricular Development in Statistics Education

The topic for the IASE Round Table Conference in 2004 will be Curricular Development in Statistics Education. The need for processing the increasing amount of data people receive in the course of their work and lives has made it imperative that students leave elementary and secondary schools prepared to make reasoned decisions based on sound statistical thinking. Countries and communities have approached this problem in different ways. The Round Table will provide the opportunity for sharing what works and to highlight the challenges and potential solutions researchers have faced as they design and implement curricula to produce statistically literate citizens. The Round Table will be held at Lund University in Sweden which is in close proximity ICME-10.

More information can be obtained from Gail Burrill, Division of Science and Mathematics Education, College of Natural Science, Michigan State University, 116 North Kedzie, East Lansing MI 48824, USA, E-mail: burrill@msu.edu

IASE Activities at the 55th Session of the ISI, Sydney, Australia, 2005

Chris Wild is the IASE representative at the ISI Programme Co-ordinating Committee for ISI-55th Session, to be held in Sydney, Australia, April 5–12, 2005. As such he also is Chair of the IASE Programme Committee, which is in charge of preparing a list of Invited Paper Meetings to be organised by the IASE alone or in co-operation with other ISI Sections, Committees and sister societies. The committee will pay special attention to new topics that have been not discussed at the previous ISI Sessions. Those who want to participate either as organisers or speakers or who have good ideas about possible topics, please contact Chris Wild at c.wild@auckland.ac.nz.

ICOTS-7

We are also glad to announce that the IASE Executive accepted the proposal made by the Brazilian Statistical Association to hold ICOTS-7 in 2006 in Brazil. This was announced at the ICOTS-6 farewell dinner. The proposal is also supported by the statistical associations in Argentina and Chile and at this moment we are taking the first steps in the organisation of the conference, with Lisbeth Cordani (lisbeth@maua.br) acting as a link between the IASE Executive and the local organisers. Pedro A. Morettin of the University of Sao Paulo is to be the Chair of the Local Organising Committee (E-mail: pam@ime.usp.br). South America is an area with an increasing interest in statistics education and new curricula are introducing the teaching of statistics at school level in the majority of the region. Lisbeth and other members of the Brazilian Statistical Association have a long experience in organising international conferences and are now looking for a suitable venue in Brazil. Later this year we hope to announce the conference theme and to appoint the Local and Scientific Committees.

IASE Statistical Education Research Journal (SERJ)

The International Association for Statistical Education (IASE) is pleased to announce that the first issue of its new electronic journal, the Statistics Education Research Journal, was published in May 2002 and can be found at <http://fehps.une.edu.au/serj>. Initially SERJ will be published twice a year. Carmen Batanero (batanero@ugr.es) and Flavia Jolliffe (frjolliffe@yahoo.co.uk) are the founding editors. The other members of the editorial board are Annie Morin, M. Gabriella Ottaviani, Chris Reading, and Chris Wild.

The journal's aims include the encouragement of research activity in statistics education, the advancement of knowledge about students' attitudes, conceptions, and difficulties as regards stochastic knowledge, and the improvement of the teaching of statistics at all educational levels. The intended readership is those engaged in statistical education research or in any aspect of statistical education, that is both researchers and teachers. The first issue includes contributions on experiences in the training of researchers in statistics education, a bibliography on variation, tributes to John Truran, and information about past and forthcoming conferences.

The editorial board encourages the submission of papers and research reports, theoretical or methodological analyses, literature surveys, thematic bibliographies, summaries of research papers and of dissertations of relevance to the journal's aims. Papers giving details of ongoing studies or consisting of reflective thoughts may be submitted, provided that the theoretical framework and, in the case of studies, some preliminary results, are included. Contributions in English are preferred, but contributions in French and Spanish are also acceptable. All the papers will be refereed. Further information and guidelines for authors are available at: <http://fehps.une.edu.au/serj>.

IASE Publication

CD of ICOTS-6 Proceedings: There are nearly 300 papers given by authors from over 40 countries on a wide range of topics of interest to people involved in teaching statistics or carrying out research into statistics teaching and learning. This is a formidable resource for statistics education. The CD can be obtained from the ISI for \$US25 including postage and handling and has ISBN: 085590 782 7

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Forthcoming Conferences with Statistics Education Components

CERME-3

Bellaria, Italy, February 28 - March 3, 2003. Dave Pratt, Group 5 Co-ordinator (E-mail: dave.pratt@warwick.ac.uk)

The Third Conference of the European Society for Research in Mathematics Education is a conference organised by the European Society for Research in Education, and is designed to foster a communicative spirit. It deliberately and distinctively moves away from research presentations by individuals towards collaborative group work. The organisers for the Stochastic Thinking Group invite research-based papers on stochastic thinking, including probability, statistics and the interface between these domains. They will be

particularly interested in theoretical, empirical or developmental papers that address one or more of the following themes:

- The nature and development of stochastic thinking and its relationship to other types of mathematical thinking, including the interface between probabilistic and statistical thinking, such as in modelling or data exploration.
- The relationship between stochastic thinking and external factors such as teaching methodologies tools tasks and setting.
- The role of computer-based tools, including microworlds, on stochastic thinking. The elaboration of theoretical frameworks that may provide insightful models for interpreting evidence from research on stochastic thinking.

Visit <http://fibonacci.dm.unipi.it/~didattica/CERME3/>

***IX Seminar of Applied Statistics –
IASI "Statistics in Education and Education in Statistics"***

The Inter-American Statistical Institute (IASI), created in 1940, is a professional organisation that aims to promote the statistical development in the American region. As part of its program of activities, IASI has regularly carried out a series of meetings called "Seminars of Applied Statistics". The latest of these seminars held in July 2001 in Panama dealt with "Statistical Methods for Quality and Productivity". The next seminar in this series is to take place in the facilities of Instituto de Matemática Pura e Aplicada (IMPA), in Rio de Janeiro, from 7 to 10 July 2003. The themes chosen for the IX Seminar of Applied Statistics are: "Statistics in Education and Education in Statistics".

This seminar should provide an excellent opportunity for exchange of ideas, dissemination of recent work and developments that took place in Brazil and the Americas over the last few years, together with discussion of perspectives for advancement of both areas in the future. The goals are to attract wide participation from researchers, university teachers, and professionals who have an interest in the themes of the seminar from Brazil and other countries, as well as to encourage participation from students (graduate and undergraduate) and high-school teachers.

A local executive committee, chaired by Prof. Ruben Klein (Fundação Cesgranrio-Brazil), has been formed and counts with IASI's first vice-president Pedro Silva (IBGE-Brazil), Prof. Kaizo Beltrão (IBGE-Brazil) and Prof. Paulo Cesar Carvalho (IMPA-Brazil). This committee is in charge of all local administration of the seminar, as well as the implementation of the strategic decisions taken by the international program committee. The International Program Committee is also chaired by Prof. Klein and includes, in addition to the members of the local committee, professors Wilton Bussab (FGV/SP-Brazil), José Francisco Soares (UFMG-Brazil), Dalton Andrade (UFSC-Brazil), Lisbeth Cordani (USP-Brazil), Martha Bilotti Aliaga (University of Michigan-USA), Guido Del Pino (PUC, Chile), Carmen Batanero (Universidad de Granada, Spain, and currently president of IASE) and Ita Kreft (Charter School of Education, UCLA-USA).

The Seminar will feature short courses, invited conferences, round tables, oral presentations and poster session, amongst other activities.

Deadline for paper submission and discount registration fees is March 31, 2003.

The IX Seminar of Applied Statistics is promoted by IASI, and is co-sponsored by IMPA-Brazil, IBGE-Brazil, Fundação Cesgranrio-Brazil, --Brazilian Statistical Association (ABE) and other institutions.

Further information about the seminar is available from the address below.

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