![IASE Matters logo]

This issue contains a Call for Papers and other information on ICOTS-5, reports on statistical education activities in Slovenia and Australia, and a call for nominations for the IASE Executive Committee.

THE FIFTH INTERNATIONAL CONFERENCE ON TEACHING STATISTICS: ICOTS-5

Key Information

Place: Nanyang Technological University, Singapore.
Dates: June 21 - 26, 1998.

Theme: Statistical Education - Expanding the Network

Contacts

Chair IPC: Brian Phillips (*bphillips@swin.edu.au* Fax + 61 3 9819 0821)
Chair LOC: Teck-Wong Soon (*twsoon@singstat.gov.sg*)
Singapore contact: Lionel Pereira-Mendoza (*pereiraml@am.nie.ac.sg*)

WWW site: *www.nie.ac.sg:8000/~wwwmath/icots.html*

Brochure

The first brochure on ICOTS-5, containing information on Singapore and the theme of the meeting, is available from the Conference Secretary, Dr. Eric Nordmoe, Department of Economics and Statistics, National University of Singapore, 10 Kent Ridge Crescent, Singapore 119260 (*ecsicots@nus.sg* Fax 65 775 2646)

Call for Papers

If you are interested in presenting a paper at ICOTS-5 please submit an abstract, 300-500 words in length, of the paper you would like to be considered as soon as possible to the relevant topic convener whose name and email is listed below or the IPC Chair. You will then be put in touch with the appropriate session organiser. Because of the limited number of speakers who can be accepted for each session, people whose abstracts are not accepted for the session they nominate may be referred to organisers of other relevant sessions and/or the contributed paper or poster sessions.

Topics

1. Statistical education at the school level (Elementary level, secondary level, teacher training, local teachers): Lionel Pereira-Mendoza *pereiraml@am.nie.ac.sg*

2. Statistical education at the post-secondary level (Introductory statistics, mathematical statistics, design and analysis of experiments, regression and correlation, Bayesian methods, categorical data analysis, sample survey design and analysis): Richard Scheaffer *scheaffe@stat.ufl.edu*

3. Statistical education for people in the workplace (Statistical consultancy, continuing education, distance education, total quality): Kerstin Vannman *kerstin.vannman@ies.luth.se*

4. Statistical education and the wider society (Statistical Societies, statistical literacy, publications, legal contexts, journalism, informed society): Anne Hawkins *ash@maths.nott.ac.uk*

5. An international perspective of statistical education (African region, Asian region, Spanish speaking, Other developing regions): James Ntozi *isae@mukla.gn.apc.org*

6. Research in teaching statistics (Junior levels, senior school levels, post-secondary levels, probability): Joan Garfield *jbg@maroon.tc.umn.edu*

7. The role of technology in the teaching of statistics (Software design, teaching experiments, graphics calculators, visualization, research, multi-media and WWW): Rolf Biehler *rolf.biehler@post.uni-bielefeld.de*

8. Other determinants and developments in statistical education (Cultural/historical factors, learning factors, assessment, gender factors, projects/competitions): Guiseppe Cicchitelli *pino@stat.unipg.it*

9. Contributed papers: Shir-Ming Shen *hrntssm@hkucc.hku.hk*

10. Poster sessions: Peng Yee Lee *leepy@am.nie.ac.sg*

Anyone who wants to run a special session such as a special interest group discussion, a demonstration/training session should contact the IPC Chair for consideration.

One section of the Conference will be devoted to Cultural and Historical Factors in Statistical Education. Although the history of mathematics and mathematics education has attracted increasing interest in recent years, this interest has only just started to reach statistics and statistics education. So the section fits very well into the Conference Theme. Six papers from four countries were presented at ICOTS-4 in 1994. These addressed issues of curriculum development and biographies of statistical educators and institutions. At least two 90 minutes sessions at ICOTS-5 will be devoted to this topic. Presentations will take 20 minutes; there will be time for 10 minutes discussion of each paper and a suitable person is being sought to provide a critical response to all the papers and to indicate possible directions for future work. Papers will be published in the Conference Proceedings and should provide results of new research.

Anyone who would like to present a paper to this section of the conference is invited to apply to *John Truran, Graduate School of Education, University of Adelaide, South Australia 5005 jtruran@arts.adelaide.edu.au*

STATISTICAL EDUCATION IN SLOVENIA

Andrej Blejec, President, Section for Statistical Education, Slovenian Statistical Association, Vecna pot 111, SI-1000 Ljubljana, Slovenia *andrej.blejec@uni-lj.si*

Slovenia is a young state, founded in 1991 after the break of Yugoslavia. With the area of 20,000 square kilometers and less than 2,000,000 inhabitants it is one of the smallest countries in the world. It is situated south of Austria and east of Italy. Both countries can be reached from our capital city, Ljubljana (300,000 inhabitants), in an hour drive by car. We have two universities, University of Ljubljana, founded in 1919, and University of Maribor, founded in 1975.

The present state of statistics and statistical education in Slovenia should be viewed from some historical points of view. As a socialist state, Yugoslavia developed a network of statistical offices in all republics. The Statistical Office of Slovenia was one of the best developed in a technical and methodological sense. The importance of statistics as a method for analysis and promotion of economic and industrial growth led to the development of a strong statistical group at the Faculty of Economics. Gradually, due to some excellent statisticians, statistics was introduced to other faculties and departments of the University of Ljubljana. Unfortunately, statistics was never recognized by the Department of Mathematics as a mathematical discipline. Students of mathematics at the Faculty for Mathematics and Physics are not introduced to the rich world of statistics and have only a one year combined course of probability and mathematical statistics. Formerly, teachers of statistics at the universities were, with some exceptions, non-mathematicians. Nowadays, more

and more mathematicians are attracted by statistics and they teach at various faculties. Since there is no department for statistics, teachers are scattered throughout the University. Fortunately, we are well connected and organized through the Slovenian Statistical Association (SSA), a member of ISI since 1993. The majority of members of SSA are statisticians employed in the Statistical Office of Slovenia, which is evolving into a modern, survey based office, tightly connected with other European statistical offices.

Statistics is typically taught as a one year course at most faculties of both Universities. The exceptions are the Faculty of Economics, with a rich background and tradition in statistical education, and the Faculty of Social Sciences, with one of the strongest groups of statisticians. There is a movement to organize post-graduate study of Statistics at the University of Ljubljana.

In high schools (grade 9-12), statistics is not taught as a special course except in economy schools. In some high schools, statistics is included as a chapter in mathematics, following the combinatorics and probability chapter. As such it is introduced on a mathematical foundation (going as deep as confidence intervals and hypothesis testing), but illustrated with real life examples. Statistics, or better to say, data analysis by comparisons of tables and graphs is widely used by science teachers (physics, geography, biology).

In primary schools, there is no organized attempt to introduce data analysis or statistics. Some data analysis can be recognized in science classes (from grade 4). Some concepts of summarizing data (counting the cars of different types passing on the street), comparing values (area and population of different countries) and even comparison of ratios (population density) are shown. Graphing is limited to barcharts. Line charts are shown in geography classes, which are the most common source of data analysis problems. Later, at grade 7, physics classes show the notion of measurement, measurement error and arithmetic mean. The arithmetic mean, illustrated by the results of sports events, is only mentioned in mathematics.

In general, the situation is far from being satisfactory. Statisticians in the SSA recently became aware of the need to promote statistics in the schools and in the society. On the general assembly of the SSA in 1992, a Section for statistical education was formed. The aim of the section is to promote statistics, introduce statistics and data analysis as an important field of knowledge and improve statistical literacy of

people. In 1993 we joined the teachers training program organized by the Slovenian Ministry of Education. The program is based on several one- or two-days seminars a year. Some eager members of SSA contribute seminars on EDA, graphing techniques, tabulation of data, frequency distribution construction, and similar topics. Seminars are organized for teachers of different topics in secondary schools (e.g., statistics in economy schools, mathematics, chemistry). The seminar for teachers in primary schools is in preparation. We hope that we started a change in the attitude toward statistics which will lead to a more organized approach to the introduction of data analysis and statistics in our schools.

STATISTICS DOWN UNDER

Statistical Education Workshop

Nick Garnham, *ngarnham@swin.edu.au*

A weekend workshop on Statistical Education, organised by Pamela Shaw of the Department of Statistics, Macquarie University in Sydney (*pshaw@efs.mq.edu.au*), preceded the 13th Biennial Australian Statistical Conference held in Sydney in July. This was the third such workshop to be held in conjunction with the Australian Statistical Conference. The conference itself was part of the Sydney International Statistical Congress which also incorporated two other meetings, Computing Science and Statistics: 28th Symposium on the Interface, and the IMS Special Topics Meeting.

Most of the more than 50 workshop participants were drawn from universities but one session was devoted to the interactions between secondary and tertiary statistics teaching. Multimedia, technology based teaching and the World Wide Web were strong features. Other contributions included reports on investigations into student learning and behaviour in formulating hypotheses and also in constructing concept maps. Basic learning issues were addressed in an invited paper on the perception of graphs and also in a report on using a special computer package (STATPLAY) to improve the understanding of fundamental concepts in probability and inference for students of psychology. The abstracts are available at: *http://www.stat.mq.edu.au/sew/*

For the first time the conference proper also included sessions on Statistical Education including an invited session with several speakers on the topic *Statistical Education: Expanding Horizons.* As several Australian statistical educators /researchers

also attended ICME-8 and the IASE Round Table both held in Spain at the same time as the Sydney International Statistical Congress, the growing strength and scope of Statistical Education in Australia is evidenced by the total contribution to these three events.

New Zealand Statistical Association Conference

Sharleen Forbes, *sdforbes@stats.govt.au*

The first annual conference of the New Zealand Statistical Association to have an education theme, "Research in the learning of statistics", was held at Victoria University, Wellington on the 30 and 31 August 1996. Although general statistics papers were also presented statistics education research papers dominated throughout the two days. Invited speakers included:
David Vere-Jones (Victoria University) "Statistical education in the next 10 years: past perspectives and future prospects"
Maxine Pfannkuch (Auckland University) "Statistical interpretation of media reports"
Kay Lipson & Peter Jones (Swinburn University, Australia) "Teaching statistics in the 21st century" and "An introduction to the statistical capabilities of the graphics calculator: the TI-83"
Larry Weldon (Simon Fraser University, Vancouver, Canada) "On learning to use statistical theory"
Brian Phillips (Swinburn University, Australia) "The latest research in statistics education".
Other New Zealand statistics education speakers were Andy Begg, Mike Camden, Jocelyn Dale, Sharleen Forbes, Siva Ganesh, Phillipa Graham, Alex Neill, Robin McIntyre, David Nigthingale, Caroline Smith, Ian Westbrook, Ramaija Naidu and a group from the New Zealand Qualifications Authority. Other Australian speakers were Glenys Bishop, Sharon Gunn, Anne Porter and Lyn Roberts.

The conference was deliberately planned around the traditional annual conference so that other statistics practitioners and academics would have the opportunity to hear the latest statistics education research. Efforts were also made to attract secondary school teachers to the conference, and it appears that the conference has been more successful in this regard than the former. (A number of teachers have providing positive feedback already.)

Conference proceedings were produced and made available to all participants. There are also a few left which can be obtained at cost (US $10) from Jim Neyland at Victoria University (*jim.neyland@vuw.ac.nz*).

IASE NEWS NOTES

Nominations for New Officers Requested

It is time for the election of a new Executive Committee for IASE. The elections of 1997 will produce the third leadership group for IASE since it's inception. The first two have labored to make IASE a viable organization with impact on statistics education around the world, and have succeeded in placing the organization on a firm footing. It will soon be up to a new Executive Committee to build on this foundation as it takes IASE to new heights. Please give serious thought to this matter so that we can produce a slate of nominees with energy and vision.

The current Executive Committee consists of

President:
    Anne Hawkins (UK)
President-Elect:
    Maria Gabriella Ottaviani (Italy)
Vice-Presidents:
    Manfred Borovcnik (Austria)
    Abdelmegid Farrag (Egypt)
    Brian Phillips (Australia)
    Richard Scheaffer (USA)

Please send your nominations to the current president:

> *Dr Anne Hawkins*
> *Director, Royal Statistical Society*
> *Centre for Statistical Education*
> *University of Nottingham*
> *Nottingham, NG7 2RD, UK*
> *ash@maths.nott.ac.uk*

Dues for 1997

The new converted dues for IASE membership in 1997. The DUTCH GUILDER amounts remain unchanged.

HFl 70.00 (38.00 for developing and transition countries)
USD 40.83 (22.17)
GBP 26.25 (14.25)
FRF 214.67 (116.53)
CHF 52.50 (28.50)
DEM 61.83 (33.57)

Please do not forget to renew to renew your membership for 1997, and encourage a friend or colleague to become a new member. We must expand the network if we are to have dramatic impact upon statistical education around the world.