PAST IASE CONFERENCES

JOINT ICMI /IASE STUDY
STATISTICS EDUCATION IN SCHOOL MATHEMATICS: CHALLENGES FOR TEACHING AND TEACHER EDUCATION
Monterrey, Mexico, June 30 - July 4, 2008

The International Commission on Mathematical Instruction (ICMI, http://www.mathunion.org/ICMI/) and the International Association for Statistical Education (IASE, http://www.stat.auckland.ac.nz/~iase/) organised the Joint ICMI /IASE Study Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education.

Accepted papers were presented in the Conference and appeared in the Proceedings that were published by ICMI and IASE as a CD-ROM and on the Internet. The second part of the Joint Study—the Joint Study book—was produced after the conference and is published in the ICMI Study Series.

More information: Carmen Batanero, batanero@ugr.es

Website with links to proceedings and Joint Study book:
http://www.ugr.es/~icmi/iase_study/

ICME 11
INTERNATIONAL CONGRESS ON MATHEMATICAL EDUCATION
TOPIC STUDY GROUP # 13
RESEARCH AND DEVELOPMENT IN THE TEACHING AND LEARNING OF PROBABILITY
Monterrey, Mexico, July 6 - 13, 2008

Probability and statistics education are relatively new disciplines. Both have only recently been introduced into the main stream school curricula in many countries. While the application oriented statistics is undisputed in its relevance, discussion about probability is more ambivalent. Reduction of probability to the classical conception, mainly based on combinatorics, or its tight connection to higher mathematics, is an argument to abandon this part of the discipline in favour of the statistics part. However, there are some arguments for a strong role for probability within stochastics curricula:

1. Misconceptions on probability affect people's decision in important situations, such as medical tests, jury verdict, investment, assessment, etc.
2. Probability is essential to understand any inferential procedure of statistics.
3. Probability offers a tool for modelling and "creating" reality. For example, modern physics cannot be formulated without reference to probability concepts. The concepts of risk (not only at financial markets) and reliability are closely related to and dependent upon probability.

Thus the challenge is to teach probability in order to let the students understand it. The focus has to be on creating approaches to probability that are more accessible and motivating. Additionally, the frequentist and subjectivist views of probability, and connections of probability to practical applications should be taken into account.

Simulation is one such strategy, as is visualization of abstract concepts; there are more. The use of technology also enables to reduce the calculation technicalities and focus the learner on the concepts instead. The world of personal attitudes and intuitions is another source for success or failure of teaching probability. With these challenges in mind, we have encouraged in our call papers and presentations related to the following topics:

- Individuals' corner
  Students' understanding and misunderstanding of fundamental probabilistic concepts
  Ideas of probability in young children
- Impact of technology
  The use of technology for students' learning of probability
  Using specific software (Fathom, probability explorer, etc.) to study probability
  Special issues in e-learning
- Teacher's corner
  Teacher education on the topic of probability
  Teachers' conceptions about teaching probability
- Fundamental ideas
  The probabilistic idea of a random variable; distribution and expectation
  The central limit theorem; convergence
  Bayes' theorem and conditional probability; independence; exchangeability
  Probabilistic modelling – a probabilistic look at distributions

Out of the papers submitted, 17 papers were accepted after careful examination. We grouped them to the following topics which were the themes of our sessions at the conference:

- Issues in Probability Teaching and Learning,
- Informal Conceptions,
- Conditional probability and Bayes' theorem.

A panel discussion on the topic "Fundamental Ideas in Probability Teaching at School Level" completed our programme. The panel focused on the impact of recent trends in school curricula, which have removed probability at early stages in favour of data analysis techniques.

The authors came from Europe, USA, Australia and Latin America, the English and the Spanish worlds, and the "rest" were distributed "evenly." More details of the presentations are available from the conference website (see below), including full papers and PowerPOint shows as well. A critical review will follow.

The hope is that ICME will continue to organize topic study groups on probability and statistics separately. With this "strategy" we did in fact split our potential audience as all the study groups are held at the same time slots. However, the great interest in our group on probability as well as the number of people who attended the parallel statistics group confirm that we can attract many more people to our topic by two separate groups. The split into the two groups also allowed for a more convenient focus of the pertinent presentations and discussions. It showed that—against the international trend towards statistics and away from probability in all international curricula—there is still a substantial interest in research in probability issues as it is highly relevant for any teaching and learning of statistics. This holds also for the joint study of ICME and IASE, which was held one week prior to the ICME congress where a panel discussion about a vital role for probability within curricula met a strong echo and led to a lively discussion on the role of probability within educational research and in curricula.

To view the presentented papers and other activities available on the ICMI website:
http://tsg.icme11.org/tsg/show/14

ICME 11
INTERNATIONAL CONGRESS ON MATHEMATICAL EDUCATION
TOPIC STUDY GROUP # 14
RESEARCH AND DEVELOPMENT IN THE TEACHING AND LEARNING OF STATISTICS
Monterrey, Mexico, July 6 - 13, 2008

Statistics education is a growing field of research and development at school and university level. The topic group focused on presenting and discussing recent research. Statistics at school level is usually taught in the mathematics classroom in connection with learning probability. Inferential statistics is based on basic understandings of probability. Our topic includes probabilistic aspects in learning statistics, whereas research with a specific focus on learning probability is being discussed TSG 13 of ICME.

To view the presentented papers and other activities are available on the ICMI website: http://tsg.icme11.org/tsg/show/15

OTHER PAST CONFERENCES

6TH AUSTRALIAN CONFERENCE ON TEACHING STATISTICS
Melbourne, Australia, July 3 - 4, 2008

The 6th OZCOTS was held as a satellite to the Australian Statistical Conference. Presented invited and contributed papers and forums on topics across the tertiary statistical education spectrum are of interest to statisticians, statistical educators, and the statistical profession. OZCOTS 2008 and its invited speakers are associated with a National Senior Teaching Fellowship on the teaching and assessment of statistical thinking within and across disciplines.

More information and link to proceedings:
http://silmaril.math.sci.qut.edu.au/ozcots2008/

CensusAtSchool: 2ND INTERNATIONAL WORKSHOP
Los Angeles, California, July 28 - 29, 2008

The International CensusAtSchool project encourages the use of real data, from and about school children, and promotes the teaching and learning of statistical thinking skills in the classroom. This gives children increased understanding of data, wherever it originates, and encourages them to develop a healthy skepticism towards statistics that are constantly presented to them by the media and the society they live in.

More information: Juana Sanchez (jsanchez@stat.ucla.edu)
Website with links to presentations and other materials:
http://censusatschool-california.stat.ucla.edu

2008 JOINT STATISTICAL MEETINGS
Denver, CO, USA, August 3 - 7, 2008

JSM (the Joint Statistical Meetings) is the largest gathering of statisticians held in North America. It is held jointly with the American Statistical Association, the International Biometric Society (ENAR and WNAR), the Institute of Mathematical Statistics, and the Statistical Society of Canada.

Website: http://www.amstat.org/meetings/jsm/2008/

FORTHCOMING IASE CONFERENCES

ISI-57
THE 2009 SESSION OF THE INTERNATIONAL STATISTICAL INSTITUTE
Durban, South Africa, August 16 – 22, 2009

IASE sponsored Invited Paper Meetings for 57th Session in Durban are being organised by Helen MacGillivray (Australia, h.macgillivray@qut.edu.au). The IASE Programme Committee for ISI-57 has chosen the theme "Statistics Education for the Future."

IASE has nine IPM (Invited Paper Meeting) sessions, two of which include issues raised by the local organisers, and has two joint sessions with IAOS.

Session Number	Section representation	Title of Invited Paper Meeting	Organiser(s)
IPM15	IAOS IASE	The challenge of building a supply of statisticians for the future	To be determined, c/o Nancy McBeth, Nancy.McBeth@stats.govt.nz
IPM36	IASE IAOS	The roles of statistical agencies in developing statistical literacy	Reija Helenius, Finland, Reija.Helenius@stat.fi
IPM37	IASE Local Hosts	Educating the public on how to use official statistics	Peter Wingfield-Digby, pwdigby@loxinfo.co.th
IPM38	IASE Local Hosts	Challenges faced in Statistics Education in African countries	Delia North, South Africa, northd@ukzn.ac.za
IPM39	IASE	Balancing the training of future statisticians for workplace and research	Charles Rohde, USA, crohde@jhsph.edu
IPM40	IASE	Exploiting the progress in statistical graphics and statistical computing for the benefit of statistical literacy	Juana Sanchez, USA, jsanchez@stat.ucla.edu
IPM41	IASE	Survey research in statistics education	Irena Ograjensek, Slovenia, irena.ograjensek@ef.uni-lj.si
IPM42	IASE	Research on informal inferential reasoning	Katie Makar, Australia, k.makar@uq.edu.au
IPM43	IASE	Teaching, learning and assessing statistics problem solving in higher education	Neville Davies, UK, neville.davies@ntu.ac.uk
IPM44	IASE	Technologies for learning and teaching in developing countries	Gabriella Belli, USA, gbelli@vt.edu
IPM45	IASE	Virtual learning environments for statistics education	Adriana Backx Noronha Viana, Brazil, backx@usp.br and Pieternel Verhoeven, Netherlands, n.verhoeven@roac.nl

The website http://www.statssa.gov.za/isi2009/ has information on all matters relating to ISI 2009, including important dates, and will be regularly updated as new information develops.

More information: Helen MacGillivray, h.macgillivray@qut.edu.au

2009 IASE SATELLITE CONFERENCE TO THE 57TH SESSION OF THE ISI
"NEXT STEPS IN STATISTICS EDUCATION"
Durban , South Africa, August 14 -15, 2009
(Immediately before ISI 57 in Durban)

All submissions addressing the theme "Next Steps in Statistics Education" will be welcome. This theme has been chosen to particularly attract papers under the following headings:

1. What constitutes best practice for the curriculum beyond the "Introductory Statistics" course? What courses should follow on for those wishing to major in Statistics and what additional training should we offer to those in other disciplines?
2. What elements of our undergraduate curriculum specifically prepare our students for their careers post-graduation, either in the workplace or as masters/doctoral students? How can we improve these elements?
3. Now that more countries have school curricula that include substantial emphasis on data and chance, how can we better prepare teachers for implementing those curricula? What curricular materials and tools can we develop to improve students' learning of statistics at school level?
4. Since the 1949 formation of its precursor, the ISI Statistical Education Committee, the IASE has matured as an organisation. As we move towards ICOTS 8, we note that great progress has already been made in the field of Statistics Education but the challenge we face now is to consider the next steps that we must take. How can we build on past progress to raise the profile of our field so that it becomes a more visible and vibrant pursuit?

More information can be found on conference webpage:
http://www.ucd.ie/statdept/2009_iase_satellite.html
Conference email: IASE_Satellite@maths.ucd.ie

SRTL-6
THE SIXTH INTERNATIONAL RESEARCH FORUM ON STATISTICAL REASONING, THINKING, AND LITERACY
The Role of Context and Evidence in Informal Inferential Reasoning
Brisbane, Australia, July 10 - 16, 2009

The sixth in a series of International Research Forums on Statistical Reasoning, Thinking and Literacy (SRTL-6) is to be held in Brisbane, Australia from July 10 to July 16, 2009. The School of Education at The University of Queensland, will host the Forum. The Forum's focus will build on the work presented and discussed at SRTL-5 on informal ideas of statistical inference. Recent research suggests an important role for developing ideas of informal types of statistical inference even at early educational levels. Researchers have developed instructional activities that encourage students to infer beyond samples of data and use technological tools to support these informal inferences.

The findings of these studies reveal that the context of the data and the use of evidence may be important factors to study further. The role of context is of particular interest because in drawing (informal) inferences from data, “students must learn to walk two fine lines. First, they must maintain a view of data as 'numbers with a context'” (Moore, 1992). At the same time, “they must learn to see the data as separate in many ways from the real-world event they observed” (Konold & Higgins, 2003, p. 195). That is, they must abstract the data from that context. The role of evidence is also of particular interest because in learning how to make data-based claims (argumentation), students must consider the evidence used to support the claim, the quality and justification of the evidence, limitations of the evidence and finally, an indication of how convincing the argument is (Ben-Zvi, Gil, & Apel, 2007).

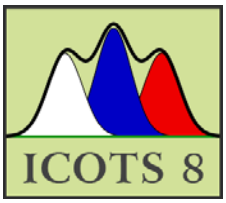
Based on SRTL-5, we characterize Informal Inferential Reasoning (IIR) as the cognitive activities involved in drawing conclusions with some degree of uncertainty that go beyond the data and having empirical evidence for them. Three principles appear to be essential to informal inference: (1) generalizations (including predictions, parameter estimates, and conclusions) that go beyond describing the given data; (2) the use of data as evidence for those generalizations; and (3) conclusions that express a degree of uncertainty, whether or not quantified, accounting for the variability or uncertainty that is unavoidable when generalizing beyond the immediate data to a population or a process (Makar & Rubin, 2007).

An interesting range of diverse research presentations and discussions have been planned and we look forward to a stimulating and enriching gathering. These papers will address the role of context and evidence when reasoning about informal inference at all levels of education including the professional development of elementary and secondary teachers.

The structure of the scientific program will be a mixture of formal and informal sessions, small group and whole group discussions, and the opportunity for extensive analysis of video-taped research data. There will also be a poster session for exhibiting current research of participants on additional topics related to statistics education. The Forum is co-chaired by Dani Ben-Zvi (University of Haifa, Israel) and Joan Garfield (University of Minnesota, USA), locally organized by Katie Makar and Michael Bulmer (The University of Queensland), and planned by a prestigious international advisory committee. Conference attendance is by invitation only.

For more information, visit the SRTL website at: http://srtl.stat.auckland.ac.nz/ or email SRTL2009@gmail.com.

ICOTS-8
DATA AND CONTEXT IN STATISTICS EDUCATION:
TOWARDS AN EVIDENCE-BASED SOCIETY
Ljubljana, Slovenia, July 11-16, 2010



The 2010 International Conference on Teaching Statistics will be held in the city of Ljubljana, Slovenia, July 11-16. It is being organised by the IASE and the Slovenian Statistical Association. The venue will be the Ljubljana Cultural and Congress Centre.

Statistics educators, statisticians, teachers and educators at large are invited to contribute to the scientific programme. Types of contribution include invited papers, contributed papers and posters. No person may author more than one

Invited Paper at the conference, although the same person can be co-author of more than one paper, provided each paper is presented by a different person.

Voluntary refereeing procedures will be implemented for ICOTS-8. Details of how to prepare manuscripts, the refereeing process and final submission arrangements will be announced later.

INVITED PAPERS

Invited Paper Sessions are organized within 10 Conference Topics as follows.

Topics and Topic Convenors

1. Data and Context in Statistics Education: Towards an Evidence-based Society.
   Brian Phillips (Australia) bphillips@swin.edu.au
   Irena Ograjensek (Slovenia) irena.ograjensek@ef.uni-lj.si
2. Statistics Education at the School Level.
   Mike Shaughnessy (USA) mikesh@pdx.edu
   Doreen Connor (UK) doreen.connor@ntu.ac.uk
3. Learning to Teach Statistics.
   Katie Makar (Australia) k.makar@uq.edu.au
   Joachim Engel (Germany) engel@math.uni-hannover.de
4. Statistics Education at the Post Secondary Level.
   Elisabeth Svensson (Sweden) elisabeth.svensson@esi.oru.se
   Larry Weldon (Canada) weldon@sfu.ca
5. Assessment in Statistics Education.
   Beth Chance (USA) bchance@calpoly.edu
   Iddo Gal (Israel) iddo@research.haifa.ac.il
6. Statistics Education, Training and the Workplace
   Gabriella Belli (USA) gbelli@vt.edu
   Peter Petocz (Australia) peter.petocz@mq.edu.au
7. Statistics Education and the Wider Society
   Richard Gadsden (UK) R.J.Gadsden@lboro.ac.uk
   Oded Meyer (USA) meyer@stat.cmu.edu
8. Research in Statistics Education
   Arthur Bakker (The Netherlands) a.bakker@fi.uu.nl
   Tim Burgess (New Zealand) t.a.burgess@massey.ac.nz
9. Technology in Statistics Education
   Deborah Nolan (USA) nolan@stat.berkeley.edu
   Paul Darius (Belgium) paul.darius@biw.kuleuven.be
10. An International Perspective on Statistics Education
    Delia North (South Africa) northd@ukzn.ac.za
    Enriqueta Reston (Phillipines) edreston@usc.edu.ph

Session themes within each Topic are organized. The themes and Session organizers with email contact are available on the ICOTS-8 web site http://icots8.org/, under "Scientific Programme." The list of invited speakers is close to completion. A few gaps remain. If you are interested in being considered to fill one of these contact the Programme Chair John Harraway (jharraway@maths.otago.ac.nz) by December 31, 2008.

CONTRIBUTED PAPERS

Contributed paper sessions will be arranged in a variety of areas. Those interested in submitting a contributed paper should contact either Gilberte Schuyten (Gilberte.Schuyten@UGent.be), John McKenzie (mckenzie@babson.edu) or Flavia

Jolliffe (F.Jolliffe@kent.ac.uk) before August 31, 2009 if being refereed or before 30 November, 2009 if not being refereed.

POSTERS

Those interested in submitting a poster should contact Mojca Bavdaz (mojca.bavdaz@ef.uni-lj.si) or Alesa Lotric Dolinar (alesa.lotric.dolinar@ef.uni-lj.si) before January 15, 2010.

GENERAL ISSUES

More information is available from the ICOTS-8 web site at http://icots8.org/ which will continue to be updated over the next two years, or from the ICOTS IPC Chair John Harraway, (jharraway@maths.otago.ac.nz), the Programme Chair, Roxy Peck (rpeck@calpoly.edu) and the Scientific Co-ordinator, Helen MacGillivray (h.macgillivray@qut.edu.au).

OTHER FORTHCOMING CONFERENCES

USCOTS 2009
UNITED STATES CONFERENCE ON TEACHING STATISTICS
"LETTING GO TO GROW"
Columbus, OH, USA, June 25 - 27, 2009

The third biennial United States Conference on Teaching Statistics (USCOTS 09) will be held on June 25-27, 2009 at the Ohio State University in Columbus, Ohio, hosted by CAUSE, the Consortium for the Advancement of Undergraduate Statistics Education. The target audience for USCOTS is teachers of undergraduate and AP statistics, from any discipline or type of institution. Teachers from two-year colleges are particularly encouraged to attend.

The theme for USCOTS 2009 is Letting Go to Grow. "Letting Go" has many interpretations, such as letting go of some classic course content in order to better align with course goals, letting go of some old ideas about pedagogy in order to use more effective methods, or letting go of old notions about the students we teach in order to better facilitate their learning. USCOTS is a "working conference" with many opportunities for hands-on activities, demonstrations, networking, idea sharing, and receiving the latest information on research and best practices in teaching statistics. Leaders in statistics education and assessment will give plenary talks, including Dani Ben-Zvi (Haifa, Israel), George Cobb (USA), Peter Ewell (USA), Ronald Wasserstein (USA), and Chris Wild (Auckland, New Zealand).

Details are available at USCOTS web page: http://www.causeweb.org/uscots

10TH INTERNATIONAL CONFERENCE OF THE MATHEMATICS EDUCATION INTO THE 21ST CENTURY PROJECT
MODELS IN DEVELOPING MATHEMATICS EDUCATION
Dresden, Saxony, Germany, September 11 – 17, 2009

The Mathematics Education into the 21st Century Project was founded in 1986 and is dedicated to the planning, writing and disseminating of innovative ideas and materials in Mathematics and Statistics Education. You are warmly invited to attend our 10th anniversary conference in the heart of the historic city of Dresden, Germany. The conference is organized in full cooperation with the Saxony Ministry of Education. All our conferences have a strong Statistics Education component.

INTERNATIONAL ORGANISERS

Dr. Alan Rogerson, Coordinator of the Mathematics in Society Project (Poland)
Professor Fayez Mina, Faculty of Education, Ain Shams University (Egypt)

CHAIR OF THE LOCAL ORGANISING COMMITTEE

Prof. Dr. Ludwig Paditz, Dresden University of Applied Sciences.

Further information: Alan Rogerson, arogerson@inetia.pl
Web site: http://math.unipa.it/~grim/21project.htm

2009 JOINT STATISTICAL MEETINGS
Washington, DC, USA, August 1-6, 2009

JSM (the Joint Statistical Meetings) is the largest gathering of statisticians held in North America. It is held jointly with the American Statistical Association, the International Biometric Society (ENAR and WNAR), the Institute of Mathematical Statistics, and the Statistical Society of Canada. Attended by over 5000 people, activities of the meeting include oral presentations, panel sessions, poster presentations, continuing education courses, exhibit hall (with state-of-the-art statistical products and opportunities), career placement service, society and section business meetings, committee meetings, social activities, and networking opportunities.

More information: jsm@amstat.org

Website: http://www.amstat.org/meetings/jsm/2009/