ethical frameworks, codes of practice and codes of conduct.

Maurice Belz was himself an international statistician. He was elected as a member of the International Statistical Institute in 1948, acted as a consultant to international companies, and was President of the France-Australia Association of Victoria for 27 years. A fellow francophile, he would have found much in common with the 2004 Belz Lecturer.

Geoff Laslett

Shape Understanding System: the application of statistical methods in designing a system with visual thinking capabilities

The November meeting was addressed by Magdelena Les and Dr Zbigniew Les from the Queen Jadwiga Research Institute of Understanding. Since 1996 they have been publishing conference reports and papers on a novel concept, their shape understanding system (SUS), in journals such as *Computers and Graphics*, the *International Journal of Shape Modelling* and the *International Journal of Pattern Recognition and Artificial Intelligence*. If robots, for example, are to interact consistently with their environment, they will need a robust method of recognizing and processing shapes. The authors claim, however, that image processing methods applied in visual systems often yield unsatisfactory results, mainly because a specific image processing method is applied to a broad range of shapes. SUS is an attempt to provide a better system. It recognizes that shape understanding is inherently complex, and this observation serves as a starting point for the new system.

A novel feature of SUS is its reliance on selected classes of shapes, for example the convex class, the concave class, the 'thin' class, the convex polygon class, the convex curvilinear class, and the convex polygon-curvilinear class. The set of possible classes is based on *a priori* knowledge of the topological properties of shape, discernible properties of the figure and unique features of the figure. The Les innovation is to recognize that each *different* shape class requires a *different* sequence of processing methods for optimal results. The researchers have labelled this type of artificial intelligence 'visual reasoning'. Pattern recognition within their system uses Hidden Markov Models or Bayesian networks. The speakers illustrated their method of visual inference on several statistical problems, including curve identification, regression, cluster analysis and discriminant analysis.

Eddy Torr

QUEENSLAND

March 2005

The AGM and branch meeting was held on Tuesday, 29th March, 2005 at Queensland University of Technology. Bronwyn Harch welcomed all members and a member Miranda Mortlock was presented with her AStat Certificate. Miranda works at the Office of Economic and Statistical Research which is an office of Queensland Treasury.

At the AGM new officers were elected:

President – Professor John A. Eccleston of University of Queensland

Secretary – Helen Johnson from Queensland University of Technology.

Following the AGM Professor Kerrie Mengersen of Queensland University of Technology spoke on "Assessing the combined impact of smoking and asbestos on health".

Kerrie discussed methods to obtain a better understanding of the interactive effects of multiple environmental and industrial exposures on health for individual, corporate and public health decision-making. Several studies, providing published data on smoking and asbestos were presented. Data in this area of exposure to risks are usually available on individual exposures, and sometimes on the combined exposures. Using these studies, meta-analysis models were built to examine the type and degree of combined effect. The presentation described methods for undertaking meta-analysis for assessing whether the combined effect of smoking and asbestos exposure is additive or multiplicative. The results obtained showed them to be somewhere in between the additive and multiplicative.

Miranda Mortlock