

Rare Events: The Poisson Paradigm

Speaker: Centennial Professor Louis Chen
National University of Singapore

Date: Friday, 2 March 2007
Time: 4:00 p.m. – 5:00 p.m.
Venue: LT 31 (Faculty of Science Auditorium)
Blk S16, Level 3, 3 Science Drive 2
National University of Singapore
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Abstract

Rare events occur in natural phenomena but can also be defined mathematically in scientific problems. For the latter, the accurate calculation of the probabilities of occurrences of such events is important for decision making in the physical and social sciences. The Poisson distribution, which was discovered by the French mathematician Siméon-Denis Poisson in 1837, is often used for calculating these probabilities. The speaker will give a brief historical account of the early development of the Poisson distribution, and give some examples of how scientific problems can be phrased in terms of occurrences of rare events and how the Poisson distribution is used. The examples will be taken from the study of coincidences, molecular biology, imaging science and real-world networks. **This lecture is meant for the general audience.**

About the Speaker

Professor Louis Chen received his BSc from the University of Singapore and graduated with an MS and PhD from Stanford University. He joined the NUS Department of Mathematics in 1972 and was its Head between 1996 and 2000. Since July 2000, he has been the Director of the Institute for Mathematical Sciences at NUS. From 2002 to 2004, he was concurrently the Head of the NUS Department of Statistics and Applied Probability. He was appointed Tan Chin Tuan Centennial Professor in July 2006.

Professor Chen's research interest is Probability Theory. He is well-known for his work on the Chen-Stein method of Poisson approximation. He has received many honors and awards, which include the National Science and Technology Award in 1991, Excellence for Singapore Award in 1997, and Fellowship in the Institute of Mathematical Statistics in 1989 and in the Academy of Sciences for the Developing World in 2000.

Professor Chen was the first Asian to be elected President of the Bernoulli Society for Mathematical Statistics and Probability (1997-99), and the first East Asian to be elected President of the Institute of Mathematical Statistics (2004-05).



Admission is free (buffet dinner after lecture).

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