

McMASTER UNIVERSITY  
GRADUATE PROGRAM IN STATISTICS

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**STATISTICS SEMINAR**

**Speaker:** Abdel El-Shaarawi  
National Water Research Institute  
Burlington

**Title:** On Spatial Skew-Gaussian Processes and Applications  
**Day:** Tuesday, March 11, 2008

**Time:** 3:30 - 4:30 PM

**Place:** HH/217 - Deloitte Colloquium Room  
(refreshments in HH/216 at 3:00 PM)

**SUMMARY**

In many applications, observed spatial variables have skewed distributions. Appropriately modelling the shape of the distribution as well as the spatial correlation structure is important to the spatial analysis. We propose a class of stationary processes that have skewed marginal distributions. The covariance function of the process can be given explicitly. We study maximum likelihood inference through a Monte Carlo EM algorithm, and develop a method for minimum mean-square error prediction. We also present two applications of the process.

This is joint work with Zhang Hao; Purdue University

## REFERENCES

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## ABOUT THE SPEAKER



Abdel El-Shaarawi received his B.Sc. and M.Sc. degrees in 1964 and 1968 from Cairo University and his Ph.D in Statistics in 1972 from University of Waterloo. In 1973 he began a career as a research scientist at the Canada Centre for Inland Waters in Burlington, Ontario. He has been part-time Professor in the Department of Mathematics and Statistics, McMaster University, since 1980, and Adjunct Professor in the Department of Statistics and Actuarial Sciences, University of Western Ontario, 1986 to 1996, and in the Department of Statistics, University of British Columbia, since 2001-2003.

During 1983-1984 he was Visiting Professor at the University of Metz and during 2002-2003 at the University of Genoa. For shorter periods he has been Visiting Professor at the University of Kuwait (1998, 1999), Masaryk University (1998, 1999), King Saud University (2000) and Sultan Qaboos University (2006-2007). He is founding Editor of the journal *Environmetrics* and founding President of The International Environmetrics Society. He is an elected member of the International Statistical Institute and a Fellow of: the Royal Statistical Society (United Kingdom), the American Statistical Association and the Modelling and Simulation Society of Australia and New Zealand. Awards include the Distinguished Achievement Medal of the ASA Section on Statistics and the Environment and the Citation of Excellence Award from the Government of Canada.

## MORE SEMINAR INFORMATION

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