Editorial

Pioneered by Leonard Tippett (1902–1985), extreme value theory has become an important branch of probability and statistics. Since 1983, there have been a series of international conferences on extreme value analysis, and there are a fast growing number of published papers on extreme value theory and its applications. The most recent event on extreme value theory is the Eighth Conference on Extreme Value Analysis which took place in Shanghai, China in July 2013, also known as EVA 2013. The papers presented in the conference covered a wide range of research topics.

Statistics and Its Interface (SII) aims to promote outstanding research in all statistical related areas. Two special issues (I, II) on extreme value analysis are the most recent research results from participants in EVA 2013 and some nonparticipants. The aim of the two SII special issues is to expose to the academic and applied community how state of the art techniques in extreme value theory can be used to tackle diverging real world problems. The authors show precisely how a theoretical framework can be transformed into methodologies for real data analysis. A brief discussion of some of the contributed papers will demonstrate that readers can obtain quantitative techniques and analysis approaches from authors' contributions.

The SII special issue I is more theory than application. It contains ten excellent interesting articles. Risk analysis and prediction are major tasks in insurance and finance. One common approach is to use copula function to study dependence structures between risk variables. Qiurong Cui and Yong Ma considered using a more flexible multivariate distribution, i.e. MGB2, to price synthetic CDO. MGB2 is much more flexible to produce patterns of base correlation curve than other distributions such as one factor Gaussian, Clayton, and double t models. Lujun Li, Yijun Wu and Jingping Yang investigated bivariate copula function's local correlation structure by defining its concentration set. They provided a method to find a concentration set and studied its properties. Xuan Leng and Taizhong Hu derived the asymptotic behavior of randomly weighted sums of dependent random variables. Enkelejd Hashorva and Zhichao Weng established an extended version of Berman's inequality for randomly scaled Gaussian random vectors. Xin Liao and Zuoxiang Peng introduced a second order condition on the convergence rate of maxima formed by a triangular array of independent and identically distributed bivariate Gaussian random vectors. They derived the uniform convergence rate of the distribution of normalized bivariate maxima to its ultimate limit distribution. Krzysztof Debicki, Enkelejd Hashorva and Lanpeng Ji showed how the conditional distribution of perturbed chi-square risks can be approximated by certain distributions including the Gaussian ones. Takaaki Shimura studied a numerical characteristic of large random numbers. Jelena Jockovic and Pavle Mladenovic considered coupon collector problem and its extensions in extreme value framework. Jian He, Zhuo Sheng, Bing Xing Wang and Keming Yu introduced a new method to fit the generalized Pareto for small samples. Colin Chen used empirical distributions to test the goodness-of-fit of the three-parameter asymmetric Laplace distribution.

During the review process, authors and reviewers made a lot of efforts to improve the quality of accepted papers for the special issues. We sincerely thank all authors and reviewers for their contributions to the special issues.

Special Issue Editors:
Yazhen Wang and Zhengjun Zhang