McMASTER UNIVERSITY

GRADUATE PROGRAM IN STATISTICS

STATISTICS SEMINAR

Speaker: Dr. Xiaowen Zhou, Department of Mathematics and
Statistics, Concordia University

Title: *"Risk Model With a Constant Dividend Barrier"*

Day: Tuesday October 19, 2004

Time: 3:30 - 4:30 PM

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

SUMMARY

In this talk we first introduce the classical compound Poisson risk model and briefly review issues involving its ruin probability. Then we go over some generalized models. Among those we are particularly interested in the model with a constant dividend barrier, since it is closely related to the exit problem for Levy processes. We will present a result concerning the joint distribution of the ruin time, the surplus immediately before ruin and the deficit at ruin. A new expression is also obtained for the expected present value of the total dividend payments until ruin. Some explicit computations can be carried out for such a model with exponential claims.

REFERENCES

1. Asmussen, S. (2000). *Ruin Probabilities*, Word Scientific.

2. Gerber, H.U. (1979). *An Introduction to Mathematical Risk Theory*, S.S. Huebner Foundation Monographs, University of Pennsylvania.

3. Gerber, H.U. and Shiu, E.S.W. (1997). "The Joint Distribution of the Time of Ruin, the Surplus Immediately Before Ruin, and the Deficit at Ruin," *Insurance: Mathematics and Economics* **21**, pp. 129--137.

4. Gerber, H.U. and Shiu, E.S.W. (1998). "On the Time Value of Ruin," *North American Actuarial Journal* **2**, pp. 48--78.

5. Lin, X., Willmot, G.E. and Drekic, S. (2003). "The Classical Risk Model With a Constant Dividend Barrier: Analysis of the Gerber-Shiu Discounted Penalty Function," *Insurance: Mathematics and Economics* **33**, pp. 551--566.

ABOUT THE SPEAKER: Dr. Xiaowen Zhou is an Assistant Professor in the Department of Mathematics and Statistics at Concordia University. He received his PhD degree in statistics in 1999 from University of California at Berkeley. Dr. Zhou's research interests are on measure-valued stochastic processes and probability applied to risk theory.

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