

# COLLOQUIUM

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## Phase-type law of mortality and its applications

The logo for Mathematics and Statistics features a large orange circle in the center. The words "Mathematics" and "Statistics" are written in bold black font, stacked vertically within the circle. The word "and" is positioned between them in a smaller font. The circle is set against a background of four blue squares arranged in a 2x2 grid, with the circle overlapping the center of these squares.

**Mathematics  
and  
Statistics**

Date: Friday, November 14, 2014

Time: 3:30 - 4:30 PM

Room: RIC 209

**Abstract:** The Phase-type distribution has recently received much attention in modeling human mortality due to its flexibility, natural interpretation and mathematical tractability. I will review matrix analytic expressions for basic actuarial quantities such as net present value, premium and benefit reserve for a wide range of life insurance products, and discuss the measurement of life contingency risk at both contract and portfolio level. I will also present the topic of pricing guaranteed minimum death benefit contracts embedded in equity-linked products.