Stellenbosch UNIVERSITY IYUNIVESITHI UNIVERSITEIT

Statistics and Actuarial Science
Statistiek en Aktuariële Wetenskap

NITheCS
National Institute for
Theoretical and Computational Sciences

S E M I N A R

Prof Uwe Schmock
(Technical University of Vienna, (TU Wien) Austria)

Date:
Tuesday, 17 February 2026

Time:
14h00-15h00 SAST

Venues:
- Room 2058
  Van der Sterr Building,
  cnr Victoria & Bosman Streets
  Stellenbosch
- Online

WHO SHOULD ATTEND?
All are welcome.

ENQUIRIES:
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On Matrix-Valued Gamma Distributions in Multivariate Poisson Mixture Models

ABSTRACT *(Joint work with Karoline Vonach):*
In the collective model of actuarial science, it is popular to assume that the claim number has a Poisson distribution with a random intensity following a gamma distribution (which results in a negative binomial distribution allowing for overdispersion). The multivariate Poisson distribution enables an extension to a multi-business-line model with joint defaults. The vector of random Poisson intensities including their dependence structure can be modelled in terms of a matrix-valued gamma distribution, which is a generalization of the Wishart distribution.
We discuss and derive properties of the involved distributions, including their degenerate variants. Particular emphasis is given to the probability-generating functions and the characterisation of suitable biased probability distributions.

Dr Uwe Schmock has been a full professor at TU Wien since 2003, leading the research area in risk management in financial and actuarial mathematics. He also serves as Vice President of the Actuarial Association of Austria and chaired its educational committee for over a decade.
After completing his PhD at TU Berlin, he spent 13 years at the University and ETH Zürich, including as Research Director of the Swiss RiskLab, working with partners such as Credit Suisse, UBS, and Swiss Re. At TU Wien, he has secured major research funding and directed the Christian Doppler Laboratory for Portfolio Risk Management for eight years.
Dr Schmock publishes in leading academic journals, is coauthor of the current Austrian annuity life table, and is currently working on two book projects. He is also an active teacher, with international teaching experience and has supervised 12 PhD students.

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