

# IMS/RMI Public Lecture

# Mathematics and the Financial Crisis

**Speaker:** Professor Paul Embrechts  
Swiss Federal Institute of Technology (ETH) Zurich

**Date:** Monday, 16 November 2009

**Time:** 6:30pm – 7:30pm

**Venue:** Lecture Theatre 33  
Block S17, Level 2  
Faculty of Science  
National University of Singapore  
Singapore 119260

**FREE ADMISSION**



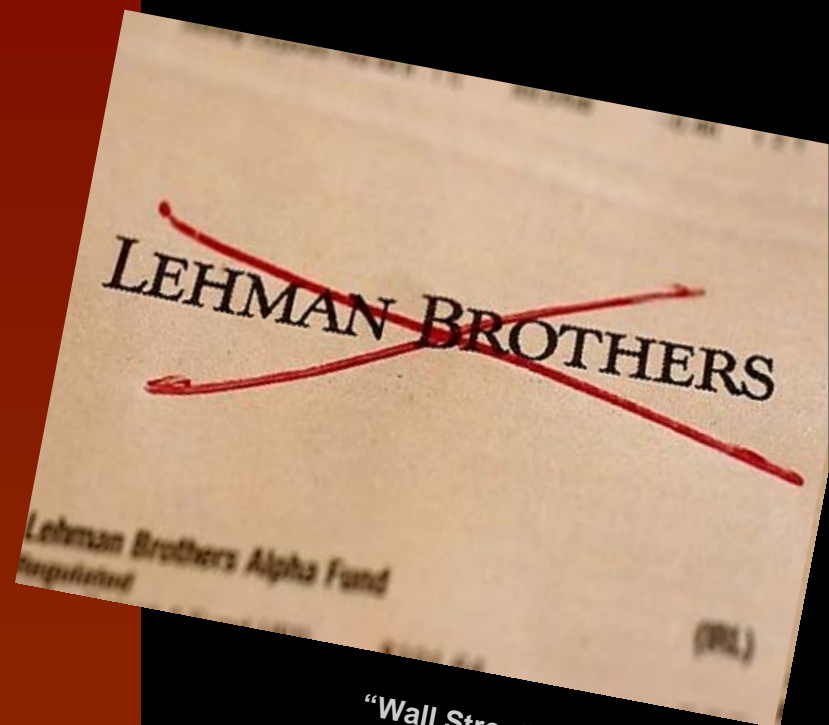
## About the Speaker

Paul Embrechts is Professor of Mathematics at the ETH Zurich specialising in actuarial mathematics and quantitative risk management. Previous academic positions include the Universities of Leuven, Limburg and London (Imperial College). Dr. Embrechts has held visiting professorships at the University of Strasbourg, ESSEC Paris, the Scuola Normale in Pisa (Cattedra Galileiana), the London School of Economics (Centennial Professor of Finance), the University of Vienna, Paris 1 (Panthéon-Sorbonne), and has an Honorary Doctorate from the University of Waterloo. He is an Elected Fellow of the Institute of Mathematical Statistics, Actuary-SAA, Honorary Fellow of the Institute and the Faculty of Actuaries, Corresponding Member of the Italian Institute of Actuaries and is on the editorial board of numerous

scientific journals. He belongs to various national and international research and academic advisory committees. He co-authored the influential books "Modelling of Extremal Events for Insurance and Finance", Springer, 1997 and "Quantitative Risk Management: Concepts, Techniques and Tools", Princeton UP, 2005. Dr. Embrechts consults on issues in quantitative risk management for financial institutions, insurance companies and international regulatory authorities.

## Abstract

In various articles in the popular press, mathematics is (partly) being blamed for the current financial crisis. In this talk, I will review some of these allegations, and try to put them into the right perspective. No doubt, (financial) mathematics has contributed substantially to a better methodological understanding of the fundamentals of modern finance. The critical question however we have to pose ourselves is whether in the process we have lost (too much) sight of the real world outside. Mathematics was definitely used (abused) for putting scientific respectability on products and prices which lacked sound macro-economic principles. I will definitely answer the question: "Why did nobody warn?" It is to be hoped that consequences will be drawn with respect to teaching and research, but this not only in (financial) mathematics.



"Wall Street's Math Wizards  
Forgot a Few Variables"  
(New York Times)

$$\Pr[T_A < 1, T_B < 1] = \Phi_2(\Phi^{-1}(F_A(1)), \Phi^{-1}(F_B(1)), \gamma)$$

"Recipe for Disaster: The Formula That  
Killed Wall Street" (Wired Magazine)

"Of Couples and Copulas"  
(Financial Times)

"How a Formula Ignited Market  
That Burned Some Big Investors"  
(Wall Street Journal)



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