

The **Center For Advanced Mathematical Sciences (CAMS)** is inviting you to a two sessions tutorial entitled “An introduction to incomplete markets”

Speaker: Prof. Teemu Pennanen (King's College London)

Venue: CAMS, College Hall, 4th floor, room 416

Date: Thursday, June 13

Program:

Session 1 at 11:00am

Lunch break at 12:00noon

Session 2 at 2:00pm

Abstract: The tutorial gives an introduction to financial economics in terms of basic optimization theory. We provide a unified treatment of financial risk management, accounting, and asset pricing in a simple discrete-time asset-liability management model that avoids many of the technicalities associated with traditional continuous-time models. This leaves room for practical considerations that are often neglected in more mathematical texts. In particular, the approach allows for nonlinear illiquidity effects and portfolio constraints which are significant in practice but invalidate much of the classical theory of financial mathematics. The theory is illustrated by pricing and hedging of exotic derivatives on S&P index using call and put options, forward contracts and cash as the hedging instruments. The optimized static hedges provide good approximations of the options payouts and the spreads between indifference selling and buying prices are quite narrow as compared with the spread between super- and subhedging prices.

Biography: Teemu Pennanen is the Professor of Financial Mathematics, probability and statistics at King's College London. Before joining KCL, professor Pennanen worked as Managing Director at QSA Quantitative Solvency Analysts Ltd, with a joint appointment as Professor of Mathematics at the University of Jyväskylä. His research interests include convex optimization, probability and statistics and their applications to financial economics and risk management. Pennanen has authored over 50 journal publications and he has been a consultant to a number of financial institutions including Bank of Finland, The State Pension Fund and Ministry of Social Affairs and Health.