

**Date of the event:**

On Wednesday 5th May 2010  
From 01:00 PM to 2:00 PM

**Location:**

Luxembourg School of Finance  
University of Luxembourg  
4 Rue Albert Borschette  
2<sup>nd</sup> Floor  
Modigliani Miller Auditorium (E02-003)  
L-1246 Luxembourg

**Registrations:**

- Free seminar (with lunch included)
- Registrations by email before May 2nd, 2010
- At the following address : [lsf-events@uni.lu](mailto:lsf-events@uni.lu)

**Information:**

Ms Deborah Marx  
Tel : +352 46 66 44 6873

<http://www.lsf.lu/eng/Research/Seminars-and-Conferences/Seminars-Workshops>



The LSF is pleased to invite you to the following  
lunch seminar:

## Option Anomalies and the Pricing Kernel

*By M. Kris Jacobs*  
McGill University



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## ***Option Anomalies and the Pricing Kernel***

***By Kris Jacobs***

The **L**uxembourg **S**chool of **F**inance

Is pleased to invite you to the

**LSF Seminar**

We provide a unified explanation for a number of index option anomalies: the implied volatility puzzle, the overreaction of long-term options to changes in short-term variance, and the fat tails of the risk-neutral return distribution relative to the physical distribution.

We explain these anomalies in terms of a pricing kernel that depends on variance. Although the pricing kernel is a monotonic function of stock return and variance, it is U-shaped in returns after projecting variance on returns. This non-monotonicity is supported by semi-parametric evidence from returns and option data. We incorporate this feature into the Heston-Nandi (2000) model and estimate the resulting model using a loss function with an options component and a returns component. The model significantly improves on the fit of a model with a traditional Black-Scholes-Rubinstein pricing kernel, and the differences between physical and risk-neutral moments are similar to those of an ad-hoc model that is designed to fit both distributions separately.

