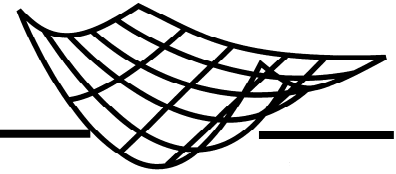


Quantitative Methods in Finance 2008 Conference Draft Programme



Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Wednesday, 17 December

7:30 am – 8:15 am Registration & Coffee

Ballroom

Chair: Eckhard Platen

8:20 - 8:30 am **Welcome by Professor Roy Green, Dean, Faculty of Business at UTS**

8:30 - 9:10 am **Tomas Björk** (Stockholm School of Economics, Sweden)
Time Inconsistent Stochastic Control

9:10 - 9:50 am **Marek Rutkowski** (University of New South Wales, Sydney, Australia)
Hedging of Credit Default Swaptions in a Hazard Process Model

9:50 - 10:30 am **Tom Hurd** (McMaster University, Hamilton, Canada)
Pricing Equity and Credit in Time Changed Brownian Motion Models

Morning Tea

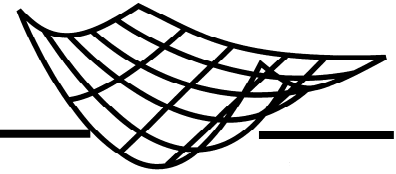
Chair: Carl Chiarella

11:00 - 11:40 am **Robert Elliott** (University of Calgary, Canada)
Portfolio Risk Minimization and Differential Games

11:40 - 12:20 pm **Uwe Schmock** (Vienna University of Technology, Vienna, Austria)
Generalization of the Dybvig-Ingersoll-Ross Theorem and Asymptotic Minimality

Lunch

Quantitative Methods in Finance 2008 Conference Draft Programme



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Whiteley One Room - Wednesday

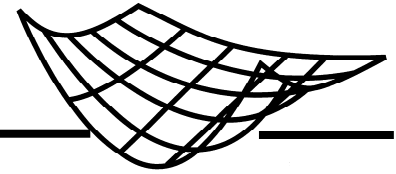
Chair: Mark Joshi

- 2:00 – 2:20 pm **Klaus Sandmann** (University of Bonn, Germany)
New No-Arbitrage Conditions and the Term Structure of Interest Rate Futures
- 2:20 – 2:40 pm **Chris Beveridge** (University of Melbourne, Australia)
The Rapid Pricing of Cancellable Snowball Swaps and Related Exotics in the LIBOR Market Model
- 2:40 – 3:00 pm **Jan Baldeaux** (University of New South Wales, Sydney, Australia)
Quasi Monte Carlo for Finance beyond Black-Scholes
- 3:00 – 3:20 pm **Laurence Luo** (The University of Hong Kong, China)
The Dynamics of Interest Rate Term Structure

Afternoon Tea

Chair: Marek Rutkowski

- 3:40 - 4:00 pm **Peter Spreij** (Universiteit van Amsterdam, The Netherlands)
Multivariate Feller Conditions in Term Structure Models: Why do(n't) we care?
- 4:00 - 4:20 pm **Kristoffer Glover** (University of Technology, Sydney, Australia)
On the Properties of the British Option
- 4:20 - 4:40 pm **Hardy Hulley** (University of Technology, Sydney, Australia)
Conditions for Martingales, with Applications in Finance
- 4:40 - 5:00 pm **João Amaro de Matos** (Universidade Nova, Lisbon, Portugal)
A New Superreplication Methodology of European Derivatives in Probabilistic Dry Markets
- 5:00 - 5:20 pm **Henry Leung** (University of Technology, Sydney, Australia)
Option Pricing Where the Underlying Assets Follow a Gram/Charlier Density of Arbitrary Order
-



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Whiteley Two Room - Wednesday

Chair: Erik Schlögl

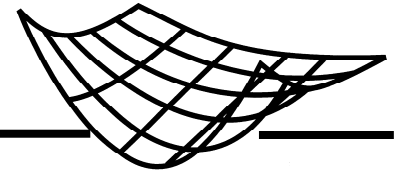
- 2:00 - 2:20 pm **Chuan-Hsiang Han** (National Tsing-Hua University, Taiwan)
A Semi-Closed Solution of the Joint Default Probability under a Structural Model with Stochastic Correlation
- 2:20 - 2:40 pm **Stephan Höcht** (Technische Universität München, Germany)
Pricing Credit Derivatives under Stochastic Recovery in a Hybrid Model
- 2:40 - 3:00 pm **Gorazd Brumen** (Princeton University, Princeton, USA)
Pricing Credit Risk in Buyer-Supplier Networks
- 3:00 - 3:20 pm **Bjorn Imbierowicz** (Goethe University, Frankfurt, Germany)
How Efficient are Credit Default Swap Markets? An Empirical Study of Capital Structure Arbitrage Based on Structural Pricing Models

Afternoon Tea

Chair: Gorazd Brumen

- 3:40 - 4:00 pm **Cathrine Jessen** (University of Copenhagen, Denmark)
Constant Proportion Debt Obligations (CPDOs)
- 4:00 - 4:20 pm **Yang Liu** (CASS Business School London, UK)
A New Approach for the Dynamic Modelling of Credit Risk
- 4:20 - 4:40 pm **Elisa Nicolato** (Aarhus School of Business, Denmark)
Self-Similar Additive Processes in Default Modelling
- 4:40 - 5:00 pm **Anthony Vassallo** (University of Sydney, Australia)
Markov Models for Portfolio Credit Risk
- 5:00 - 5:20 pm **Changki Kim** (University of New South Wales, Sydney, Australia)
Securitization of Motor Insurance Loss Rate Risks
-

Quantitative Methods in Finance 2008 Conference Draft Programme



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Boyd Room - Wednesday

Chair: Michael Taksar

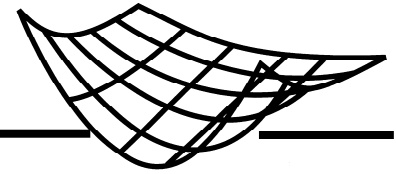
- 2:00 - 2:20 pm **Serguey Khovansky** (Clark University, Worcester, USA)
Optional Trading with Terminal-Time Leverage Constraints
- 2:20 - 2:40 pm **Julia Kraus** (Technische Universität München, Germany)
Stochastic Dominance of Portfolio Insurance Strategies
- 2:40 - 3:00 pm **Frank Lutgens** (Maastricht University, The Netherlands)
Robust Dynamic Portfolio Choice
- 3:00 - 3:20 pm **Randal Muth** (The MathWorks, Sydney, Australia)
Optimal Fund of Hedge Funds Allocation with Higher Moments

Afternoon Tea

Chair: John Van der Hoek

- 3:40 - 4:00 pm **Keiichi Tanaka** (Tokyo Metropolitan University, Japan)
Time Preference Induced by Risk Aversion
- 4:00 - 4:20 pm **Thomas Quistgaard Pedersen** (University of Aarhus, Denmark)
Return Predictability and Intertemporal Asset Allocation: Evidence from a Bias-Adjusted VAR Model.
- 4:20 - 4:40 pm **David Allen** (Edith Cowan University, Joondalup, Australia)
A Comparison of the Parametric and Sampling Approaches to Portfolio Investment Modeling
- 4:40 - 5:00 pm **Hideatsu Tsukahara** (Seijo University, Tokyo, Japan)
Estimation of Distortion Risk Measures
- 5:00 - 5:20 pm **Hong Miao** (University of Calgary, Canada)
VaR and Expected Shortfall: A Non-Normal Regime Switching Framework

7.30 pm Ballet evening at the Sydney Opera House for delegates who have registered for the event.



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Thursday, 18 December

8:00 am – 8:25 am Registration & Coffee

Ballroom

Chair: Tomas Björk

8:30 - 9:10 am **Hideo Nagai** (Osaka University, Toyonaka, Japan)
Large Deviation Control arising from Optimal Investment

9:10 - 9:50 am **Juri Hinz** (National University of Singapore, Singapore)
Market Design For Emission Trading Schemes

9:50 - 10:30 am **George Yin** (Wayne State University, Detroit, USA)
*Applications of Stochastic Approximation Methods to Certain
Financial Engineering Problems*

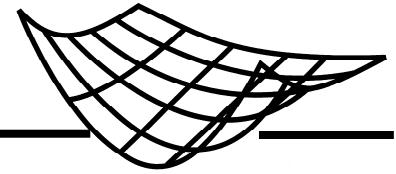
Morning Tea

Chair: Peter Spreij

11:00 - 11:40 am **Mark Joshi** (University of Melbourne, Australia)
*Conditional Analytic Monte-Carlo Pricing Scheme of Auto-Callable
Products*

11:40 - 12:20 pm **Eckhard Platen** (University of Technology, Sydney, Australia)
Valuing Guaranteed Minimum Death Benefit Options

Lunch



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Whiteley One Room - Thursday

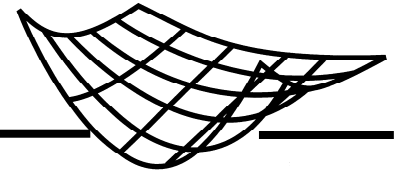
Chair: Klaus Sandmann

- 2:00 - 2:20 pm **Pernille Jessen** (Aarhus School of Business, Denmark)
Optimal Investment in Structured Bonds
- 2:20 - 2:40 pm **Alex Radchik** (Trading Technology Australia Pty Ltd, Australia)
*Super-Fast Evaluation of the Commodity VaR using FPGA based
Numeric Accelerators*
- 2:40 - 3:00 pm **Mark Salmon** (University of Warwick, Coventry, United Kingdom)
Time Deformation and the Yield Curve
- 3:00 - 3:20 pm **Daryl McClure** (Commonwealth Bank of Australia, Sydney, Australia)
Discontinuous Payoff Smoothing in Short Rate Models

Afternoon Tea

Chair: Ross Maller

- 3:40 - 4:00 pm **Han Zhang** (Macquarie Group, Sydney, Australia)
Stochastic Differential Geometry and Levy LIBOR Market Models
- 4:00 - 4:20 pm **David Skovmand** (University of Aarhus, Denmark)
*Alternative Specifications for the Levy Libor Market Model: An
Empirical Investigation*
- 4:20 - 4:40 pm **Alexander Van Haastrecht** (University of Amsterdam, The
Netherlands)
*Stochastic Interest Rates and Stochastic Volatility: What you can do
with Schöbel-Zhu*
- 4:40 - 5:00 pm **Mia Hinnerich** (Aarhus University, Denmark)
*Consistent Parallel and Proportional Shifts in the Term Structure of
Futures Prices*
- 5:00 - 5:20 pm **Vijay Murik** (Australian Office of Financial Management, Canberra,
Australia)
Australian Government Zero Coupon Yield Curve
-



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Whiteley Two Room - Thursday

Chair: Peter Buchen

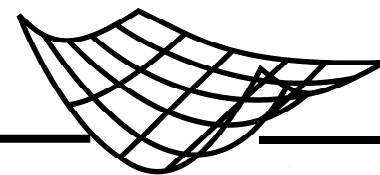
- 2:00 – 2:20 pm **Jean-Francois Chassagneux** (ENSAE, France)
Approximation of American and Game Option Price via Discretization of Reflected BSDEs
- 2:20 – 2:40 pm **Boda Kang** (University of Technology, Sydney, Australia)
The Evaluation of American Compound Option Prices under Stochastic Volatility
- 2:40 – 3:00 pm **Yuan Tian** (Tokyo Metropolitan University, Tokyo, Japan)
Compensation Measures in Alliance Formation: A Real Options Analysis.
- 3:00 – 3:20 pm **Takashi Shibata** (Tokyo Metropolitan University, Japan)
Dynamic Investment and Capital Structure under Agency Conflicts
-

Afternoon Tea

Chair: Nan Chen

- 3:40 – 4:00 pm **Stylianos Perrakis** (Concordia University, Montréal, Canada)
Can the Black-Scholes-Merton Model Survive Under Transaction Costs? An Affirmative Answer
- 4:00 – 4:20 pm **Hoi-Ying Wong** (Chinese University of Hong Kong, China)
Option Pricing with Mean Reversion and Stochastic Volatility
- 4:20 – 4:40 pm **Jian Wu** (Rouen School of Management, Mont Saint-Aignan, France)
Extending Options by changing their Underlying Assets
- 4:40 – 5:00 pm **Greg Orosi** (University of Calgary, Calgary, Canada)
Empirical Performance of a Spline Based Implied Volatility Surface
- 5:00 – 5:20 pm **Jonathan Ziveyi** (University of Technology, Sydney, Australia)
Evaluation of American Spread Options via the Integral Representation
-

Quantitative Methods in Finance 2008 Conference Draft Programme



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Boyd Room - Thursday

Chair: Jean-Pierre Fouque

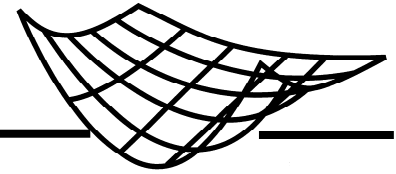
- 2:00 - 2:20 pm **Greg Woodbury** (Ernst and Young, Sydney, Australia)
Calibration of Risk-Type Dependence using Quadratic Programming
- 2:20 - 2:40 pm **Xiaolin Luo** (CSIRO, Australia)
A Generalized Grouped t-Copula for Application to Risk Management
- 2:40 - 3:00 pm **Koichi Miyazaki** (University of Electro Communications, Tokyo, Japan)
Inflation Risk in the Valuation of Corporate Debt
- 3:00 - 3:20 pm **Jiwook Jang** (Macquarie University, Sydney, Australia)
Transform Approach for Operational Risk Modelling: VaR and TCE
-

Afternoon Tea

Chair: Juri Hinz

- 3:40 - 4:00 pm **Fatemeh Nazifi** (Macquarie University, Sydney, Australia)
The Relation Between Carbon Emission Allowance Prices And Energy Prices
- 4:00 - 4:20 pm **Katsumasa Nishide** (Yokohama National University, Japan)
Equilibrium Pricing of Contingent Claims in Tradable Permit Markets
- 4:20 - 4:40 pm **Teruyoshi Suzuki** (Hokkaido University, Sapporo, Japan)
The Optimal Capital Structure and Endogenous Bankruptcy for a Fixed Term Debt Issued at Par
- 4:40 - 5:00 pm **Min Zheng** (University of Technology, Sydney, Australia)
Intertemporal CAPM with Heterogeneous Beliefs
- 5:00 - 5:20 pm **Rachid Id Brik** (Essec Business School, Paris, France)
A Note of the Pricing of Spark Spread Option with Co-Dependent Threshold Dynamics
-

7pm Conference Dinner at *Al Ponte* Restaurant, Level 2 Harbourside Centre, Darling Harbour for delegates who have registered.



Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Friday, 19 December

8:00 am – 8:25 am Registration & Coffee

Ballroom

Chair: Robert Elliott

- 8:30 - 9:10 am **BRUTI-LIBERATI LECTURE**
Constantinos Kardaras (Boston University, Boston, USA)
*Financial Equilibria in Incomplete Markets with Heterogeneous
Logarithmic Agents Consuming According to Stochastic Clocks*
- 9:10 - 9:50 am **Michael Taksar** (University of Missouri-Columbia, Columbia, USA)
*Capital Growth under Transaction Costs: An Analysis based on the
von Neumann-Gale Model*
- 9:50 - 10:30 am **Carl Chiarella** (University of Technology, Sydney, Australia)
*The Evaluation of Swing Options with Make-up and Carry-Forward
Provisions*

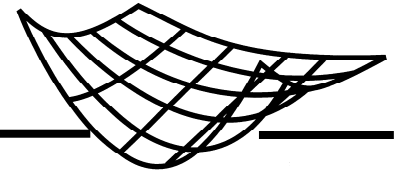
Morning Tea

Chair: Tom Hurd

- 11:00 - 11:40 am **Ross Maller** (Australian National University, Canberra, Australia)
Applications of Lévy Processes
- 11:40 - 12:20 pm **Erik Schlögl** (University of Technology, Sydney, Australia)
Design Patterns and Objects in Monte Carlo Simulation

Lunch

Quantitative Methods in Finance 2008 Conference Draft Programme



Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Whiteley One Room - Friday

Chair: Susanne Griebisch

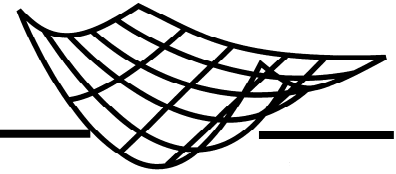
- 2:00 - 2:20 pm **Nan Chen** (The Chinese University of Hong Kong, China)
Discretely Monitoring Barrier and Lookback Options under the Heston Stochastic Volatility Model
- 2:20 - 2:40 pm **Christian-Oliver Ewald** (University of St Andrews, UK)
Malliavin Differentiability of the Heston Volatility and Applications to Option Pricing
- 2:40 - 3:00 pm **Fang Fang** (TU Delft, The Netherlands)
A Novel Pricing Method for European Options Based on Fourier-Cosine Series Expansions
- 3:00 - 3:20 pm **Igor Geninson** (Commonwealth Bank of Australia, Sydney, Australia)
Option Pricing in a Composite Volatility Model when Volatility is an Arbitrary Function of the Underlying Asset
-

Afternoon Tea

Chair: Constantinos Kardaras

- 3:40 - 4:00 pm **Chu Zhang** (Hong Kong University of Science and Technology, China)
On the Number and Dynamic Features of State Variables in Option Pricing
- 4:00 - 4:20 pm **Yoshihiko Sugihara** (Bank of Japan, Tokyo, Japan)
A New Valuation Method for the Volatility Risk Premium
- 4:20 - 4:40 pm **Dietmar Leisen** (University of Mainz, Germany)
Valuing Ordinary and Preferred Shares in Venture Capital Financings
- 4:40 - 5:00 pm **Timothy Kyng** (Macquarie University, Sydney, Australia)
Valuation of Executive Share Options using the Hull White Approach
- 5:00 - 5:20 pm **Graeme West** (University of Cape Town, South Africa)
A Finite Difference Model for Valuation of Employee Stock Options
-

Quantitative Methods in Finance 2008 Conference Draft Programme



Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Whiteley Two Room - Friday

Chair: David Skovmand

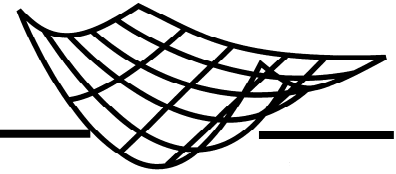
- 2:00 - 2:20 pm **Matthias Scherer** (Technische Universität München, Germany)
A Tractable Multivariate Default Model Based on a Stochastic Time-Change
- 2:20 - 2:40 pm **Anatoliy Swishchuk** (University of Calgary, Canada)
Multi-Factor Lévy Models: Change of Time and Pricing Financial and Energy Derivatives
- 2:40 - 3:00 pm **John Crosby** (Glasgow University, UK)
A class of Lévy Process Models with Almost Exact Calibration to both Barrier and Vanilla FX Options
- 3:00 - 3:20 pm **Petko Kalev** (Monash University, Melbourne, Australia)
Order Book Slope and Price Volatility

Afternoon Tea

Chair: Hoi-Ying Wong

- 3:40 - 4:00 pm **Koichi Matsumoto** (Kyushu University, Fukuoka, Japan)
Optimal Hedging with Partial Execution Risk
- 4:00 - 4:20 pm **Gerald Cheang** (Nanyang Technological University, Singapore)
Option Pricing under Stochastic Volatility and Jump-Diffusion Dynamics: A Martingale Approach
- 4:20 - 4:40 pm **Myeong Geun Jeong** (KAIST, Daejeon, Korea)
The Implied Probability Density of an Asset Price from Option Prices
- 4:40 - 5:00 pm **Zhi Guo** (University of Technology, Sydney, Australia)
Asymptotics of Implied Volatility under Local Volatility Models
- 5:00 - 5:20 pm **Lei Shi** (University of Technology, Sydney, Australia)
A Binomial Model of Asset and Option Pricing with Heterogeneous Beliefs
-

Quantitative Methods in Finance 2008 Conference Draft Programme



**Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software**

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Boyd Room - Friday

Chair: George Yin

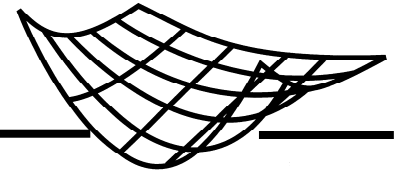
- 2:00 - 2:20 pm **Hiroshi Ishijima** (Chuo University, Japan)
Regime Switching Factor Analysis and its Application
- 2:20 - 2:40 pm **Malgorzata Korolkiewicz** (University of South Australia, Adelaide, Australia)
Dependent Hidden Markov Model of Credit Quality
- 2:40 - 3:00 pm **Hyun-Gon Ryu** (Yonsei University, Seoul, South Korea)
Option Pricing Under Stochastic Volatility with Regime Switching
- 3:00 - 3:20 pm **Tak Kuen Siu** (Curtin University of Technology, Perth, Australia)
A P.D.E Approach for Risk Measures for Derivatives with Regime Switching

Afternoon Tea

Chair: Hardy Hully

- 3:40 - 4:00 pm **Nicolas Million** (ISG University Paris 1, France)
Threshold Effects for the Conditional Mean and Variance: Evidence for the Real Interest Rate
- 4:00 - 4:20 pm **Renata Rendek** (University of Technology, Sydney, Australia)
Multivariate Distribution of Log>Returns of Diversified World Stock Indices.
- 4:20 - 4:40 pm **Tzu Tai** (National Chiao Tung University, Hsinchu City, Taiwan)
A Novel Tree Model for Evaluating Credit Risk Based on Enhanced Structure Model
- 4:40 - 5:00 pm **Wojciech Szatcschneider** (Anahuac University, Mexico)
Environmental Improvements through Principal Agent Method
- 5:00 - 5:20 pm **Nikolai Dokuchaev** (University of Calgary, Canada)
Mean-Reverting Discrete Time Market Models
-

Quantitative Methods in Finance 2008 Conference Draft Programme



Sponsored by the School of Finance and Economics at UTS,
The Mathworks, FIRN and Hearn Scientific Software

Supported by Springer; Taylor & Francis; Princeton University Press; and World Scientific

Saturday, 20 December

8:00 – 8:25 am Registration & Coffee

Ballroom

Chair: Alex Novikov

8:30 - 9:10 am **Albert Shiryaev** (Steklov Mathematical Institute, Moscow, Russia)
A Stochastic Version of the "Buy and Hold" Rule

9:10 - 9:50 am **John Van der Hoek** (University of South Australia, Adelaide, Australia)
Pricing American Options in a Markov Chain Framework

9:50 - 10:30 am **Peter Buchen** (University of Sydney, Australia)
Exotic Compound Options

Morning Tea

Chair: Uwe Schmock

11:00 - 11:40 am **Jean-Pierre Fouque** (University of California, Santa Barbara, USA)
Multiname and Multiscale Default Modeling

11:40 - 12:20 pm **Freddy Delbaen** (ETH Zurich, Zurich, Switzerland)
The Viscous Hamilton-Jacobi Equation: Relations with Finance

Lunch