

**EUROPEAN  
SCIENCE  
FOUNDATION**

**AMAMEF**

**Advanced Mathematical Methods for Finance**



**ESF – Science Meeting**

**THE 3<sup>rd</sup> GENERAL AMAMEF CONFERENCE  
ADVANCES IN  
MATHEMATICAL FINANCE**

**May 05 – 10, 2008  
Pitești, Romania**

**PROGRAM**

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Advanced Mathematical Methods for Finance – A Scientific Programme of the European Science Foundation – EFS

Institute of Mathematics “Simion Stoilow” of the Romanian Academy – IMAR

University of Pitesti – UPIT

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# PROGRAM

**Monday, May 05<sup>th</sup>, 2008**

- 09:30 – 10:30      Opening of the conference
- Coffee Break
- 11:10 – 13:00      Chairman **Vasile Brinzanescu**
- 11:10 – 12:00 **Bernt Oksendal**      *Optimal control of forward-backward stochastic differential equations and applications to risk minimization*
- 12:10 – 13:00 **Lane Hughston**      *Cumulative gains processes in finance and insurance*
- Lunch
- 15:00 – 16:00      Chairman **Bernt Oksendal**
- 15:00 – 15:25 **Constantin Tudor**      *Sub-fractional Brownian motion as a model in finance*
- 15:35 – 16:00 **Aleksandar Mijatovic**      *Local time and the pricing of time-dependent barrier options*
- Coffee Break
- 16:30 – 18:30      Chairman **Radu Purice**
- 16:30 – 16:55 **Monique Jeanblanc**      *Pricing and trading credit default swaps in a hazard process model*
- 17:00 – 17:25 **Uwe Schmock**      *A generalization of Panjer's recursion and numerically stable risk aggregation*
- 17:35 – 18:00 **Giulia di Nunno**      *Minimal-variance hedging in large financial markets: random fields approach*
- 18:05 – 18:30 **Michele Vanmaele**      *Overview of (locally) risk-minimizing hedging strategies and application to unit-linked life insurance contracts*

## Tuesday, May 06<sup>th</sup>, 2008

09:10 – 10:55 Chairman **Constantin Tudor**

09:10 – 10:00 **Claudia Klüppelberg** *Operational risk, Pareto copulas and regular variation*

Coffee Break

10:30 – 10:55 **Arturo Kohatsu-Higa** *On weak Kyle-Back models for max and argmax*

11:05 – 13:00 Chairman **Lukasz Stettner**

11:05 – 11:30 **Miklos Rasonyi** *How to view arbitrage in the presence of friction?*

11:35 – 12:00 **Mete Soner** *Super-replication in an illiquid model*

12:05 – 12:30 **Johan Tysk** *Regularity of solutions to the term structure equation*

12:35 – 13:00 **Srdjan Stojanovic** *Foreign exchange rates and foreign exchange derivatives: an optimal portfolio based theory and empirics*

Lunch

### *Parallel sessions*

#### **Section A**

15:00 – 16:00 Chairman **Monique Jeanblanc**

15:00 – 15:25 **Constantin Varsan** *Asymptotic behaviour and gradient representation for cad-lag solutions of S.D.E.*

15:35 – 16:00 **Griselda Deelstra** *Pricing and hedging asian basket spread options*

Coffee Break

16:30 – 18:30 Chairman **Lucian Beznea**

16:30 – 16:55 **Maurizio Pratelli** *The impact of different points of view in “Malliavin's Calculus” for jump processes*

17:00 – 17:25 **Vlad Bally** *Malliavin Calculus for jump processes and applications*

17:35 – 18:00 **Hans van der Weide** *Double sided Parisian options and sojourns*

18:05 – 18:30 **Delphine David** *Optimal consumption and portfolio for an insider in a market with jumps.*

## Section B

15:00 – 16:00 Chairman **Giulia di Nunno**

15:00 – 15:25 **Lucian Albu** *Problems in estimating tax evasion and hidden economy*

15:35 – 16:00 **Martin Keller-Ressel** *Moment explosions and long-term behaviour of affine stochastic volatility models*

Coffee Break

16:30 – 18:30 Chairman **Constantin Varsan**

16:30 – 16:55 **Cristoph Winter** *Wavelet Galerkin schemes for option pricing in multidimensional Levy models*

17:00 – 17:25 **Bjorn Eriksson** *A method of moments approach to pricing double barrier options driven by Levy processes*

17:35 – 18:00 **Norbert Hilber** *Wavelet FEM for option pricing under stochastic volatility*

18:05 – 18:30 **Irina Penner** *Currency markets with convex transaction costs*

20:00 – 22:00 *AMaMeF Steering Committee meeting*

**Wednesday, May 07<sup>th</sup>, 2008**

09:00 – 10:20

Chairman **Claudia Klüppelberg**

09:00 – 9:50 **Peter Imkeller**

*On martingale optimality, BSDE and cross hedging*

09:50 – 10:20

Coffee break

10:30 – 18:30

***Social program: excursion  
(Dracula) Bran Castle,  
Romanian lunch***

19:00 – 23:00

Conference Dinner

## Thursday, May 08<sup>th</sup>, 2008

09:10 – 10:55 Chairman **Peter Imkeller**

09:10 – 10:00 **Hans Föllmer** *Probabilistic quantification of financial uncertainty*

Coffee break

10:30 – 10:55 **Damien Lambertson** *Some remarks on American options in exponential Levy models*

11:05 – 13:00 Chairman **Bogdan Iftimie**

11:05 – 11:30 **Mihail Zervos** *The explicit solution to a sequential switching problem with non-smooth data*

11:35 – 12:00 **Gregorz Halaj** *Consumption and investment with partial observation of stochastic volatility and economic conditions*

12:05 – 12:30 **Sara Biagini** *The relaxed investor and the relaxed utility maximization problem*

12:35 – 13:00 **Christoph Kühn** *Nonlinear stochastic integration theory with applications to price-impact models*

Lunch

### *Parallel sessions*

#### **Section A**

15:00 – 16:00 Chairman **Damien Lambertson**

15:00 – 15:25 **Jacek Jakubowski** *Pricing of defaultable rating-sensitive claims*

15:35 – 16:00 **Farshid Jamshidian** *On the combinatorics of iterated stochastic integrals*

Coffee break

16:30 – 18:30 Chairman **Mete Soner**

16:30 – 16:55 **Michael Kupper** *On divergence utilities*

17:00 – 17:25 **Agatha Murgoci** *Time-inconsistent stochastic optimal control*

17:35 – 18:00 **Vathana Ly Vath** *Optimal switching over multiple regims*

18:05 – 18:30 **Erik Ekstrom** *Existence and uniqueness theory for the Black-Scholes equation in stochastic volatility models*

## Section B

15:00 – 16:00 Chairman **Vlad Bally**

15:00 – 15:25 **Gheorghe Barbu** *On simulation models in financial activities*

15:35 – 16:00 **George Yin** *Optimal barrier policy for dividend optimization*

Coffee Break

16:30 – 18:30 Chairman **Johan Tysk**

16:30 – 16:55 **Tahir Choulli** *Utility maximization at random horizons: effect and time-consistency*

17:00 – 17:25 **Lucas Jodar** *Numerical solutions of option pricing in markets with transaction costs*

17:35 – 18:00 **Doina Perpelea** *Analysis and evaluation of risk*

18:05 – 18:30 **Teemu Pennanen** *Dual problems in financial optimization*

## Friday, May 09<sup>th</sup>, 2008

09:10 – 10:55 Chairman **Hans Föllmer**

09:10 – 10:00 **Lukasz Stettner** *Long time GOP with fixed plus proportional transaction costs*

Coffee break

10:30 – 10:55 **Ernst Eberlein** *Advanced credit portfolio modeling and CDO pricing*

11:05 – 13:00 Chairman **Mihail Zervos**

11:05 – 11:30 **Fausto Gozzi** *Optimization problem under liquidity risk with random trading times: regularity results and optimal strategies*

11:35 – 12:00 **Nils Reich** *Numerical derivative pricing in multidimensional non-BS models*

12:05 – 12:30 **Ekhard Platen** *The law of the minimal price*

12:35 – 13:00 **Marco Papi** *Existence and uniqueness of solutions for some degenerate valuation equations and applications*

Lunch

### *Parallel sessions*

#### **Section A**

15:00 – 16:00 Chairman **Ernst Eberlein**

15:00 – 15:25 **Alexander Schied** *Optimal portfolio liquidation for risk-averse investors*

15:35 – 16:00 **Esko Valkeila** *Robust replication under model uncertainty*

Coffee break

16:30 – 18:30 Chairman **Jacek Jakubowski**

16:30 – 16:55 **Albina Danilova** *Stock market insider trading in continuous time with imperfect dynamic information*

17:00 – 17:25 **Michal Baran** *On the completeness problem of bond market*

17:35 – 18:00 **Przemyslaw Klusik** *Quantile hedging for an insider*

18:05 – 18:30 **Alessandra Cretarola** *Local Risk-Minimization for Defaultable Markets*

## Section B

15:00 – 16:00

Chairman **Hans van der Weide**

15:00 – 15:25 **Peter Spreij**

*Multivariate Feller conditions in discrete time term structure models*

15:35 – 16:00 **Mikhail Urusov**

*On the absolute continuity and singularity of measures: separating times*

Coffee break

16:30 – 18:30

Chairman **Peter Spreij**

16:30 – 16:55 **Jakub Zwierz**

*Initial enlargement of filtrations and entropy of Poisson compensators*

17:00 – 17:25 **Sabrina Mulinacci**

*Copula-based martingale processes and financial prices dynamics*

17:35 – 18:00 **Gabriela Ionescu**

*Diversity and optimal distribution with applications in publicity system*

18:05 – 18:30 **Anastasia Kolodko**

*Monte Carlo Greeks for financial products via approximative transition densities*

**Saturday, May 10<sup>th</sup>, 2008**

09:00 – 11:30

Chairman **Maurizio Pratelli**

09:00 – 09:25 **Christel Geiss**

*About Malliavin Sobolev spaces and Besov spaces for Levy processes*

09:35 – 10:00 **Marina Santacroce**

*Exponential utility maximization under partial information*

Coffee break

10:30 – 10:55 **Ruth Kaila**

*Implied integrated volatility*

11:05 – 11:30 **Mariusz Nieweglowski**

*Hedging of the rating sensitive claims*