Stochastic calculus, Martingales and Financial Modeling

Saint Petersburg, June 30 – July 5, 2014

Conference program

Monday, 30 June

9:20 – 9:30	**Opening**
9:30 – 10:15	*F. Delbaen*: Monetary utility functions with convex level sets
10:20 – 11:05	*M. Schweizer*: A new approach to bubbles in financial markets
11:05 – 11:20	**Coffee break**
11:20 – 12:05	*A. Winter*: Invariance principle for variable speed random walks on trees
12:10 – 12:55	*M. Kijima*: A unified approach for the pricing of generalized Asian option
13:00 – 14:30	**Lunch**
14:30 – 15:00	*J. Bion-Nadal*: Martingale problem for path dependent diffusion processes with jumps
15:05 – 15:35	*A. Mijatovic*: Optimal time to sell a stock in the presence of gap, default and volatility risks
15:40 – 16:10	*E. Lepinette*: Financial market models with friction: a general approach
16:15 – 16:30	**Coffee break**
16:30 – 17:00	*C. Daveloose*: Robustness of quadratic hedging strategies in finance via Fourier transforms
17:05 – 17:35	*D. Schwartz*: Integral representation of martingales motivated by the problem of market completion with derivative securities
17:40 – 18:10	*X. Sun*: A quantitative method for the pricing of contingent claim under uncertainty
18:30	**Dinner**

Tuesday, 1 July

9:30 – 10:15	*H. Föllmer*: Spatial risk measures: local specification, aggregation, and phase transition
10:20 – 11:05	*E. Eberlein*: Valuation in illiquid markets and the Feynman-Kac representation
11:05 – 11:20	**Coffee break**
11:20 – 12:05	*W. Runggaldier*: On market models that satisfy no-arbitrage conditions weaker than NFLVR
12:10 – 12:55	*M. Zervos*: Buy-low and sell-high investment strategies
13:00 – 14:30	**Lunch**
14:30 – 15:00	*L. Vostrikova*: Indifference pricing for exponential Lévy models and HARA utilities
15:05 – 15:35	*A. Cadenillas*: Entrepreneurial decisions on effort and project with a non-concave objective function
15:40 – 16:10	*R. Douady*: Polymodels and portfolio construction under extreme risks
16:15 – 16:30	**Coffee break**
16:30 – 17:00	*E. Palamarchuk*: On the strong law of large numbers for some self-normalized stochastic processes
17:05 – 17:35	*E. Shmileva*: Shifted small deviations for Lévy processes
17:40 – 18:10	*J. Cai*: Optimal discretization of hedging strategies with directional views
18:30	**Dinner**

Wednesday, 2 July

9:30 – 10:15	*J. Kallsen*: On portfolio optimization and indifference pricing with small transaction costs: rigorous proofs based on duality
10:20 – 11:05	*D. Kramkov*: A mutlti-dimensional quadratic BSDE arising in a price impact model
11:10 – 11:40	*P. Tankov*: Hedging under multiple risk constraints
12:00 – 13:30	**Lunch**
19:00	**Dinner**

Thursday, 3 July

9:30 – 10:15	*S. Peng*: SDE, BSDE and path-dependent PDE
10:20 – 11:05	*J. Teichmann*: A convergence theorem in the Emery topology and another view on the Fundamental Theorem of Asset Pricing
11:05 – 11:20	**Coffee break**
11:20 – 12:05	*Yu. Kutoyants*: Approximation of the solution of the backward stochastic differential equation. Small noise, ergodic diffusion and unknown volatility cases
12:10 – 12:55	*D. Belomestny*: Optimal stopping under probability distortions
13:00 – 14:30	**Lunch**
14:30 – 15:00	*T. Suzuki*: Optimal capital injection problem under financial crisis
15:05 – 15:35	*G. Shevchenko*: Limit theorems for mixed stochastic differential equations with delay
15:40 – 16:10	*S. Pergamenchtchikov*: TBA
16:15 – 16:30	**Coffee break**
16:30 – 17:00	*E. Yarovaya*: Space-time structure of branching random walk
17:05 – 17:35	*E. Boguslavskaya*: An effective method to solve optimal stopping problems for Lévy processes in infinite horizon
17:40 – 18:10	*M. Zhitlukhin*: A coherent performance measure based on the Sharpe ratio
18:30	**Dinner**

Friday, 4 July

9:30 – 10:15	*C. Kardaras*: Equilibrium in risk sharing games
10:20 – 11:05	*F. Biagini*: Mathematical models for the formation of financial bubbles
11:05 – 11:20	**Coffee break**
11:20 – 12:05	*T. Meyer-Brandis*: A new approach to stochastic equations with irregular drift coefficients
12:10 – 12:55	*M. Urusov*: Skorokhod embedding and approximating diffusions with Markov chains
13:00 – 14:30	**Lunch**
14:30 – 15:00	*A. Danilova*: Understanding stochastic volatility in financial markets (and the Tobin tax)
15:05 – 15:35	*M. Tehranchi*: Polynomial interest rate and volatility models
15:40 – 16:10	*T. Shibata*: Investment, collateral, and financing constraints
16:15 – 16:30	**Coffee break**
16:30 – 17:00	*V. Kreps*: Bidding games and random walks of stock market price
17:05 – 17:35	*J. Grépat*: On the limit behavior of option hedging sets under transaction costs
17:40 – 18:10	*Akhlaque Ahmad*: Integrated option pricing models: an application of Fourier transforms
18:30	**Dinner**

Saturday, 5 July

9:30 – 10:00	*H.-U. Engelbert*: On the chaotic representation property of certain families of martingales
10:05 – 10:35	*A. Shiryaev*: Statistical sequential analysis of fractional Brownian motion
10:35 – 10:50	**Coffee break**
10:50 – 11:20	*I. Sonin*: Optimal stopping of Markov chains and related problems
11:25 – 11:55	*O. Rusakov*: Construction of models of a market intrinsic time based on limits of sums of processes of the pseudo-Poisson type processes
12:00 – 12:30	*A. Gushchin*: On embedding of processes
13:00 – 14:30	**Lunch**
18:30	**Dinner**