Bachelier Colloquium in Mathematical Finance and Stochastic Calculus, January 13-17 2020

Session 1 (large room).

Monday 13th of January.

Chairman: Yuri Kabanov.

13:50-14:00 Opening session. **By Martin Schweizer and Emmanuel Lépinette.**

14:00-14:30 Life insurance of the euro-denominated contracts. **By Lioudmila Vostrikova.**

14:40-15:10 Probabilistic interpretation of parabolic conservation laws. **By Yana Belopolskaya.**

15:20-15:50 Non linear incomplete market with default: the case of American options. **By Miryana Grigorova.**

Coffee break.

Chairman: Lioudmila Vostrikova.

16:20-16:50 Systemic risk and capital allocation. **By Ludger Overbeck.**

17:00-17:30 Set-valued backward stochastic differential equations. **By Cagin Ararat.**

17:40-18:10 On general equilibrium in a financial market model whose commodity space is the portfolio space. **By Aqzzouz Belmesnaoui.**

18:20: 18:50 Risk aversion of market makers and asymmetric information. **By Albina Danilova.**

Tuesday 14th of January.

Chairman: Emmanuel Lépinette.

13:50-14:20 Optimal Consumption under arbitrary random time. **By Tahir Choulli.**

14:30-15:00 Risk-neutral pricing for arbitrage pricing theory. **By Laurence Carassus.**

15:10-15:40 Term structure modelling using cylindrical measure-valued processes. **By Philipp Harms.**

15:50-16:20 Support characterization for regular path-dependent stochastic Volterra integral equations. **By Alex Kalinin.**

Coffee break.

Chairman: Miryana Grigorova.

16:45-17:15 A Multiple curve Lévy swap market model. **By Ernst Eberlein.**

17:25-17:55 Multi-utility maximization: why, when and how? **By Andreas Hamel.**

18:00-18:30 Optimal execution with a view on price trends for transient multiplicative impact. **By Dirk Becherer.**

18:35-19:00 Portfolio optimisation with multiple mean-reversion. **By Elena Boguslavskaya.**

Wednesday 15th of January.

Chairman: Ana Ananova.

13:50-14:20 No arbitrage in insurance. **By Thorsten Schmidt.**

14:30-15:00 Contract theory for time-inconsistent agents. **By Dylan Possamaï.**

15:10-15:40 Single jump filtrations and local martingales. **By Alexander Gushchin.**

15:50-16:20 Statistical inference for SDE with delays. **By Yuri Kutoyants.**

Coffee break.

Chairman: Maria Arduca.

16:45-17:15 Semimartingale price systems in models with transaction costs beyond efficient friction. **By Christoph Kuhn.**

17:25-17:55 Growth optimal strategies in a game model of a market. **By Mikhail Zhitlukhin.**

18:00-18:30 Rough volatility and portfolio optimisation under transaction costs. **By Christoph Czichowsky.**

18:35-19:00 Incomplete-market equilibria with a large number of heterogeneous households and their connection with discrete mean field games and control. **By Andrew Lyasoff.**

Thursday 16th of January.

Chairman: Pierre Kiener. **Special session " Machine learning and deep learning in finance. "**.

14:50-14:20 Learning with sentiment: machine learning with news and social media sentiment for equity market investment and trading. **By Svetlana Borovkova.**

14:30:15:00 Information-based complexity in stochastic optimization. **By Teemu Pennanen.**

15:10-15:40 Deep combinatorial optimization for stochastic control in finance - Application to american options and fixed transation costs. **By Thomas Deschatre.**

15:50-16:20 Fatou's lemmas for varying probabilities and their applications to sequential decision making. **By Eugene A. Feinberg.**

Coffee break.

Chairman: Monique Jeanblanc.

16:45-17:15 Deep XVA analysis. **By Stephane Crepey.**

17:25-17:55 Financial Time Series Analysis of SV Model by Deep Monte Carlo. **By Evgeny Burnaev.**

18:05-18:35 Deep learning in a generalized HJM-type framework through arbitrage-free regularization. **By Anastasis Kratsios.**

Friday 17th of September.

Chairman: Emma Hubert.

13:50-14:20 One method for using of the Cramér-von Mises test with estimated parameters. **By Gennady Martynov.**

14:30-15:00 First passage time distributions for Brownian motion via Integral equations. **By Nino Kordzakhia.**

15:10-15:40 Non-Gaussian limit theorem for non-linear Langevin equations driven by Lévy noise. **By Ilya Pavlyukevich.**

15:50-16:20 Mean-field reflected backward stochastic differential equations. **By Said Hamadene.**

Coffee break.

Chairman: Yuri Kabanov. **Special session " Machine learning and deep learning in finance. "**.

16:45-17:15 The transport-based meshfree method (TMM) and its applications in finance: a review. **By Jean-Marc Mercier.**

17:25-17:55 Efficient computation of confidence bounds for neural network regression. **By Wahid Khosrawi-Sardroudi.**

18:00-18:30 On neural networks of perceptron type. **By Patrice Kiener.**