

# MathRisk Conference on Numerical Methods in Finance Program Schedule

Udine (Italy), June 14-16, 2023



On the morning of the inauguration Wednesday, June 14, 2023, at 9am, the conference will take place in the *Salone del Parlamento* of the Castle of Udine.

The conference will follow at Room 1,2 and 3 of the Department of Economics and Statistics, University of Udine, via Tomadini 30, Udine

The social dinner will take place at Casa della Contadinanza next to the castle of Udine.

## Wednesday, June 14, 2023

Time	Room	Session	Speaker
9:00 - 9:30	Salone del Parlamento	Opening, Registration, Coffee	
9:30 - 10:00	Salone del Parlamento	Welcome	
10:00 - 10:50	Salone del Parlamento	<b>Plenary</b> (Chair person: Sulem Agnès) From Lévy's stochastic area formula to universality of affine and polynomial processes	Cuchiero Christa
11:00 - 11:50	Salone del Parlamento	<b>Plenary</b> (Chair person: Lapeyre Bernard) Some quantum algorithms in Finance	Jacquier Antoine
12:00 - 14:00		Lunch Break	
14:00 - 15:30	1	<b>Risk management</b> (Chair person: Vellekoop Michel) - Wrong Way Risk corrections to CVA in CIR reduced-form models - Steady does it? On the impact of tax uncertainty on investment into carbon abatement technologies - A closed form model-free approximation for the Initial Margin of option portfolios	Ramponi Alessandro Colaneri Katia Mingone Arianna
14:00 - 15:30	2	<b>Stochastic volatility, Jump models</b> (Chair person: Guyon Julien) - CBI-time-changed Lévy processes - Joint calibration to SPX and VIX options with signature-based models - Joint SPX-VIX calibration with Gaussian polynomial volatility models: deep pricing with quantization hints	Szulda Guillaume Gazzani Guido Li Shaun
15:30 - 16:00		Coffee Break	
16:00 - 17:30	1	<b>Neural networks, Machine learning</b> (Chair person: Lelong Jérôme) - Universal Approximation of Credit Portfolio Losses using Restricted Boltzmann Machines - Tree-Based Learning in RNNs for Power Consumption Forecasting - Generative modeling for time series via Schrödinger bridge	Visentin Gabriele Baviera Roberto Hamdouche Mohamed
16:00 - 17:30	2	<b>Risk, Stochastic control</b> (Chair person: Goudenège Ludovic) - Optimal Consumption and Investment for General Preferences - On the Separation of Estimation and Control in Risk Sensitive Investment Problems under Incomplete Observation - $\rho$ -consistent pricing for convex risk measures	Vellekoop Michel Lleo Sebastien Khan Nazem

## Thursday, June 15, 2023

Time	Room	Session	Speaker
9:00 - 9:50	3	<b>Plenary</b> (Chair person: Lamberton Damien) TBA	Jentzen Arnulf
10:00 - 10:30		Coffee Break	
10:30 - 12:00	1	<b>Neural networks, machine learning</b> (Chair person: Baviera Roberto) - Application Of Feed-Forward Neural Network in Pricing Barrier Options - Neural network models for housing prices - Low-and-High--Stock Pair-Trading by Reinforcement Learning Policies	Umeorah Nneka Corazza Marco Jahangiri Eshagh
10:30 - 12:00	2	<b>Rough volatility</b> (Chair person: Alfonsi Aurélien) - Statistical Inference for Rough and Persistent Volatility - The rough Hawkes Heston model - Reconciling rough volatility with jumps	Damian Camilla Pulido Sergio De Carvalho Nathan
12:00 - 14:00		Lunch Break	
14:00 - 15:30	1	<b>Mean-field games, Optimal transport</b> (Chair person: Crépey Stéphane) - Dynamical Gibbs principle and associated stochastic control problems - Simulation of McKean-Vlasov BSDEs by Wiener Chaos Expansion - Non-decreasing martingale coupling	Reygner Julien Labart Céline Shao Kexin
14:00 - 15:30	2	<b>Computational Finance</b> (Chair person: Battauz Anna) - High order approximations of the Cox-Ingersoll-Ross process semigroup using random grids - Backward Hedging for American Options with Transaction Costs - Exact simulation of the Hull and White stochastic volatility model	Lombardo Edoardo Molent Andrea Gonzato Luca
15:30 - 16:00		Coffee Break	
16:00 - 18:00	1	<b>Green finance</b> (Chair person: Molent Andrea) - Propagation of carbon tax in credit portfolio through macroeconomic factors - Portfolio optimization with sustainable attitudes under cumulative prospect theory - An evolutionary algorithm for portfolio allocation problems with ESG benefits - Policyholders' Subjective Beliefs: Approaching New Drivers of Insurance ESG Reputational Risk	Sopgoui Lionel Piccotto Filippo Sbaiz Gabriele Apicella Giovanna
16:00 - 17:30	2	<b>Risk management</b> (Chair person: Pulido Sergio) - Does the term-structure of equity at-the-money skew really follow a power law? - Learning the Value-at-Risk and Expected Shortfall - A Multilevel Stochastic Approximation Algorithm for Value-at-Risk and Expected Shortfall Estimation	Guyon Julien Crépey Stéphane Louzi Azar
19:30		<b>Social Dinner at Casa della Contadinanza</b>	

## Friday, June 16, 2023

Time	Room	Session	Speaker
9:00 - 9:50	3	<b>Plenary</b> (Chair person: Jourdain Benjamin) Corporate Debt Value under Transition Scenario Uncertainty	Tankov Peter
10:00 - 10:30		Coffee Break	
10:30 - 12:30	1	<b>Stochastic volatility, jump models</b> (Chair person: Labart Céline) - On the implied volatility of European and Asian Call options under stochastic volatility Bachelier model - Explicit option pricing with additive processes - On the implied volatility skew outside the at-the-money point - Effective binomial discretizations of bivariate diffusion processes	Pravosud Makar Azzone Michele Torricelli Lorenzo Rotondi Francesco
10:30 - 12:30	2	<b>Quantitative Finance</b> (Chair person: Pressacco Flavio) - American options with acceleration clauses - Good times and the dividend yield - The geometry of interest-rates in a post-crisis framework - Dynamic Portfolio Risk Allocation to Exogenous Risk Factors	Battaaz Anna Sbuelz Alessandro Lanaro Giacomo Mecchina Andrea