Università degli Studi di Padova

Dipartimento Matematica

10th General AMaMeF Conference

Department of Mathematics "Tullio Levi - Civita"
University of Padova, Italy
22–25 June 2021

CONFERENCE PROGRAM

Practical informations:

- Make sure you have installed the latest Zoom version on your device.
- Each day has a specific Zoom link, indicated below on the program. The password is sent to you by e-mail one day in advance.
- You can move among different virtual rooms using the breakout rooms.
- Each day you will find the following **breakout rooms**:
  - **Main Room** for the opening, for the plenary talks, for the invited sessions, and for the parallel sessions in the first column of the program.
  - **Room B and C** for the parallel sessions in the second and third columns of the program.
  - Several **thematic breakout rooms** for discussions during the breaks.

Advanced Mathematical Methods for Finance

Tuesday, 22 June 2021

ZOOM LINK: https://unipd.zoom.us/s/87282326618

9.00 - 9.30	**WELCOME ADDRESSES (B. Chiarellotto, M. Grasselli, A. Bertucco, R. Stelzer) - VIRTUAL ROOM A**		
9.30 - 10.30	**PLENARY TALK 1 - E. Rosazza Gianin - Capital allocation rules: new perspectives in a static and dynamic setting - MAIN ROOM**		
10.30 - 11.00	***break***		
11.00 - 12.30	**INVITED SESSION 1 - MAIN ROOM Economics of climate risk (organizer: P. Barrieu and J. Ziegel)**	**CONTRIBUTED SESSION 1 - VIRTUAL ROOM B Interest rate and term structure modelling**	**CONTRIBUTED SESSION 2 - VIRTUAL ROOM C Insurance mathematics**
11.00 - 11.30	J. Hinz - Variables reduction in sequential resource allocation problems	D. Hainaut - Lévy interest rate models with a long memory	C. Ceci - Optimal reinsurance and investment under common shock dependence between the financial and the actuarial market
11.30 - 12.00	G. Marangoni - An integrated multi-objective appraisal of mitigation and climate engineering under uncertainty	J. Hölzermann - Term structure modeling under volatility uncertainty	T. Schmidt - Arbitrage in insurance
12.00 - 12.30	B. Sinclair-Desgagné - Climate policy under model uncertainty	S. Lavagnini - Accuracy of deep learning in calibrating HJM forward curves	Y. Havrylenko - Decrease of capital guarantees in life insurance products: can reinsurance stop it?
12.30 - 14.00	***break***		
14.00 - 15.00	**PLENARY TALK 2 - C. Alasseur - MFG model with a long-lived penalty at random jump times: application to demand side management for electricity contracts - MAIN ROOM**		
15.00 - 16.30	**INVITED SESSION 2 - MAIN ROOM Green energy and finance: new problems, mathematical models and solutions (organizers: G. Callegaro and R. Stelzer)**	**CONTRIBUTED SESSION 3 - VIRTUAL ROOM B Mean field games and their applications**	**CONTRIBUTED SESSION 4 - VIRTUAL ROOM C Risk measures I**
15.00 - 15.30	S. Glas - Application-oriented model reduction techniques	F. Djete - Mean field game of mutual holding	E. Mastrogiacomo - Optimization of coherent multivariate risk measures
15.30 - 16.00	C. Sgarra - A Barndorff-Nielsen and Shephard model with leverage in Hilbert space for commodity forward markets	S. Rigger - Propagation of minimality in the supercooled Stefan problem	A. Ince - Risk contributions of lambda quantiles
16.00 - 16.30	A. Veraart - High-frequency estimation of the Levy-driven graph Ornstein-Uhlenbeck process with applications to wind capacity factor measurements	G. Dos Reis - Forward utility and market adjustments in relative investment-consumption games of many players	G. Canna - Haezendonck-Goovaerts capital allocation rules
16.30 - 17.00	***break***		
17.00 - 18.30	**CONTRIBUTED SESSION 5 - MAIN ROOM Energy markets**	**CONTRIBUTED SESSION 6 - VIRTUAL ROOM B Stochastic games and their applications**	**CONTRIBUTED SESSION 7 - VIRTUAL ROOM C Risk measures II**
17.00 - 17.30	A. Kemper - The market price of risk for electricity swaps	A. Bovo - A zero-sum game between a stopper and a controller	A. Doldi - Conditional systemic risk measures
17.30 - 18.00	A. Awerkin - Optimal installation of renewable electricity sources	H. Dong - Rogue traders	C. De Vecchi - How does correlation impact Value-at-Risk bounds?
18.00 - 18.30	C. Milbradt - A cross-border market model with limited transmission capacities	E. Savku- Stochastic differential games via dynamic programming principle with regimes	A. Perchiazzo - Implied Value-at-Risk and model-free simulation

Wednesday, 23 June 2021

ZOOM LINK: https://unipd.zoom.us/s/81232092271

9.00 - 10.00	**PLENARY TALK 3 - F. Riedel - Frank Knight's legacy: the economics of uncertainty and risk - MAIN ROOM**		
10.00 - 10.30	***break***		
10.30 - 12.00	**INVITED SESSION 3 - MAIN ROOM Equilibrium models in mathematical finance (organizer: C. Fontana)**	**CONTRIBUTED SESSION 8 - VIRTUAL ROOM B Volatility estimation and forecasting**	**CONTRIBUTED SESSION 9 - VIRTUAL ROOM C Optimal stopping problems**
10.30 - 11.00	A. Danilova - On pricing rules and optimal strategies in general Kyle-Back models	G. Toscano - Rate-efficient asymptotic normality of the Fourier estimator of the leverage process	L. Stettner - Long run risk sensitive impulse control problems
11.00 - 11.30	P. Guasoni - Incomplete-market equilibrium with heterogeneous preferences and business cycles	C. Chong - Mixed semimartingales: estimating volatility in the presence of fractional noise	Y. Zou - Monte Carlo methods for optimal stopping under parameter uncertainty in multidimensional models
11.30 - 12.00	M. Herdegen - Equilibrium asset pricing with transaction costs	M. Garcin - Forecasting with fractional Brownian motion: a financial perspective	C. Herrera - Optimal stopping via randomized neural networks
12.00 - 14.00	***break***		
14.00 - 15.00	**PLENARY TALK 4 - F. Delarue - Exploration noise for learning linear-quadratic mean field games - MAIN ROOM**		
15.00 - 16.30	**INVITED SESSION 4 - MAIN ROOM MFGs and McKean - Vlasov equations (organizers: E. Bayraktar and M. Larsson)**	**CONTRIBUTED SESSION 10 - VIRTUAL ROOM B Liquidity and optimal execution**	**CONTRIBUTED SESSION 11 - VIRTUAL ROOM C Credit risk and XVA**
15.00 - 15.30	A. Cohen - Markovian equilibria in ergodic and discounted many-player and mean-field games	M. Di Giacinto - Execution under price impact with inventory cost: a heterogeneous characteristic timescales approach	A. Hertbertsson - Saddlepoint approximations for credit portfolios with stochastic recoveries: central clearing, risk management and pricing
15.30 - 16.00	A. Sojmark - Contagious McKean-Vlasov systems under heterogenous interactions	M. Urusov - Optimal trade execution in an order book model with stochastic liquidity parameters	P. Semeraro - Model risk in credit risk
16.00 - 16.30	Y. Zhang - Mean field contest with singularity	J. Ackermann - Càdlàg semimartingale strategies for optimal trade execution in stochastic order book models	A. Gnoatto - A unified approach to xVA with CSA discounting and initial margin
16.30 - 17.00	***break***		
17.00 - 18.30	**INVITED SESSION 5 - MAIN ROOM Market microstructure (organizers: J. Muhle-Karbe and E. Neuman)**	**CONTRIBUTED SESSION 12 - VIRTUAL ROOM B Affine processes**	**CONTRIBUTED SESSION 13 - VIRTUAL ROOM C Asset allocation**
17.00 - 17.30	U. Horst - The microstructure of stochastic volatility models with self-exciting jump dynamics	R. Frey - Markov modulated affine processes and applications in finance	M. Zhao - Mean-variance option portfolio and their performances
17.30 - 18.00	F. Lillo - Instabilities in multi-asset and multi-agent market impact games	J. He - A Kalman particle filter for online parameter estimation with applications to affine models	F. Rotondi - On time-consistent multi-horizon portfolio allocation
18.00 - 18.30	I. Rosu - Dynamic adverse selection and liquidity	S. Karbach - An affine stochastic volatility model in Hilbert spaces with state-dependent jumps	J. Jerome - Infinite horizon stochastic differential utility

Thursday, 24 June 2021

ZOOM LINK: https://unipd.zoom.us/s/82655567199

9.00 - 10.00	**PLENARY TALK 5 - B. Acciaio - Model-independence in a fixed-income market via weak optimal transport - MAIN ROOM**		
10.00 - 10.30	***break***		
10.30 - 12.00	**INVITED SESSION 6 - MAIN ROOM** **Recent advances in volatility modelling** **(organizers: M. Grasselli and M. Rosenbaum)**	**CONTRIBUTED SESSION 14 - VIRTUAL ROOM B** **Arbitrage theory**	**CONTRIBUTED SESSION 15 - VIRTUAL ROOM C** **Robust finance I**
10.30 - 11.00	E. Abi Jaber - Quadratic Gaussian models: analytic expressions for pricing and portfolio allocation	A. Mazzon - Optional projection under equivalent local martingale measures	F.B. Liebrich - Model uncertainty: a reverse approach
11.00 - 11.30	S. De Marco - On the implied and local volatility surfaces generated by rough volatility	A. Molitor - Semimartingale price systems in models with transaction costs beyond efficient friction	A. Papapantoleon - Model-free bounds for multi-asset options using option-implied information and their exact computation
11.30 - 12.00	B. Horvath - Insights from deep hedging under rough volatility	N. Khan - Mean-ρ portfolio selection and ρ-arbitrage for coherent risk measures	A. Rygiel - Semi-static hedging under volatility uncertainty
12.00 - 14.00	***break***		
14.00 - 15.00	**PLENARY TALK 6 - M. Nutz - Entropic optimal transport - MAIN ROOM**		
15.00 - 16.30	**INVITED SESSION 7 - MAIN ROOM** **Risk-sharing and principal-agent models** **(organizer: M. Zervos)**	**CONTRIBUTED SESSION 16 - VIRTUAL ROOM B** **Stochastic volatility I**	**CONTRIBUTED SESSION 17 - VIRTUAL ROOM C** **Robust finance II**
15.00 - 15.30	D. Possamai - Moral hazard for time-inconsistent agents and BSVIEs	A. Pallavicini - A general framework for a joint calibration of VIX and VXX options	K. Ugurlu - Terminal wealth maximization under drift uncertainty
15.30 - 16.00	S. Villeneuve - Agency problems, long memory and linear contracts	Z. Zuric - Joint SPX and VIX calibration with neural SDEs	D. Prömel - A cadlag rough path foundation for robust finance
16.00 - 16.30	E. Hubert - Epidemic control through incentives, lockdown, and testing: the government's perspective	I. Raffaelli - Revisiting the implied remaining variance framework of Carr and Sun (2014): locally consistent dynamics and sandwiched martingales	J. Wiesel - Data driven robustness and sensitivity analysis
16.30 - 17.00	***break***		
17.00 - 18.30	**CONTRIBUTED SESSION 18 - MAIN ROOM** **Systemic risk**	**CONTRIBUTED SESSION 19 - VIRTUAL ROOM B** **Stochastic volatility II**	**CONTRIBUTED SESSION 20 - VIRTUAL ROOM C** **Numerical methods I**
17.00 - 17.30	Y. Zhang - A macroprudential view on portfolio compression and rebalancing	G. Pagès - Stationary Heston model: calibration and pricing of exotics using product recursive quantization	F. Krach - Neural jump ordinary differential equations: consistent continuous-time prediction and filtering
17.30 - 18.00	R. Pang - Assessing and mitigating fire sales risk under partial information	S. Scotti - The alpha-Heston stochastic volatility model	A. Picarelli - Deep XVA solver: a neural network based counterparty credit risk management framework
18.00 - 18.30	X. Cui - Impact of systemic risk regulation on optimal policies and asset prices	G. Szulda - CBI-time-changed processes for multi-currency modeling	M. Gaudenzi - Utility indifference pricing methods for incomplete markets

Friday, 25 June 2021

ZOOM LINK: https://unipd.zoom.us/s/83142174414

9.00 - 10.00	**PLENARY TALK 7 - E. Alos - The asymptotic expansion of the regular discretization error of Itô integrals (and applications to variance swaps) - MAIN ROOM**		
10.00 - 10.30	***break***		
10.30 - 12.00	**INVITED SESSION 8 - MAIN ROOM Stochastic control: new developments and directions (organizer: G. Di Nunno and M. Zervos)**	**CONTRIBUTED SESSION 21 - VIRTUAL ROOM B Signature processes**	**CONTRIBUTED SESSION 22 - VIRTUAL ROOM C Rough volatility models**
10.30 - 11.00	G. Ferrari - Two-sided singular control of an inventory with unknown demand trend	G. Gazzani - Universal signature-based models: theory and calibration	S. Pulido - American options in the rough Heston model
11.00 - 11.30	A. Sulem - Mean-field BSDEs with jumps and global risk measures	S. Svaluto-Ferro - Universality of affine and polynomial processes and application to signature processes	A. Pannier - Large and moderate deviations for stochastic Volterra systems
11.30 - 12.00	H. Cao - Bridging stochastic analysis and GANs (and beyond)	C. Liu - Adapted topologies and higher rank signatures	J. Pospisil - Robustness and sensitivity analyses for rough Volterra stochastic volatility models
12.00 - 14.00	***break***		
14.00 - 15.00	**PLENARY TALK 8 - M. Anthropelos - Strategic informed traders and risk averse market makers - MAIN ROOM**		
15.00 - 16.30	**INVITED SESSION 9 - MAIN ROOM Optimization and hedging in markets with memory (organizer: G. Di Nunno)**	**CONTRIBUTED SESSION 23 - VIRTUAL ROOM B Stochastic optimal control I**	**CONTRIBUTED SESSION 24 - VIRTUAL ROOM C Numerical methods II**
15.00 - 15.30	T. Sottinen - Conditional-mean hedging in Gaussian long-memory models with transaction costs	A. Milazzo - Dynamic programming principle for singular control with discretionary stopping problems	M. Gardini - A bivariate Normal Inverse Gaussian process with stochastic delay: efficient simulations and applications to energy markets
15.30 - 16.00	J. Teichmann - Representation of path functionals and non-parametric drift estimation	A. Calvia - On a class of partially observed systems arising in singular optimal control	L. Gonzato - Efficient quasi-Bayesian estimation of affine option pricing models using risk-neutral cumulants
16.00 - 16.30	G. Di Nunno - Optimal portfolios in markets with memory	S. Federico - Taming the spread of an epidemic by lockdown policies	D. Shkel - Barrier option pricing with trading and non-trading hours
16.30 - 17.00	***break***		
17.00 - 18.30	**CONTRIBUTED SESSION 25 - MAIN ROOM Stochastic volatility III**	**CONTRIBUTED SESSION 26 - VIRTUAL ROOM B Stochastic optimal control II**	**CONTRIBUTED SESSION 27 - VIRTUAL ROOM C Cryptocurrencies**
17.00 - 17.30	A. Yurchenko-Titarenko - Stochastic volatility modelling via sandwiched processes with Volterra noise	O. Shelley - Transaction tax in a general equilibrium model	M. Patacca - Regime switches and commonalities of the cryptocurrencies asset class
17.30 - 18.00	L.P.D. Garces - A numerical approach to pricing exchange options under stochastic volatility and jump-diffusion dynamics	M. Tarsia - Subgame-perfect equilibrium strategies in state-constrained recursive stochastic control problems	N. Sirotko-Sibirskaya - Deep reinforcement learning-based portfolio management for the cryptocurrency market
18.00 - 18.30		M. Giordano - Optimal control in affine advertising models with memory	
18.30 - 19.00	**CONFERENCE CLOSING - VIRTUAL ROOM A**		