Detailed Schedule of the VCMF 2019 Conference

Campus of WU Vienna, Mon-Wed, September 9-11, 2019

LC Forum, LC - Library & Learning Center, ground floor (LC.0.000)
Ceremonial Hall, LC - Library & Learning Center, ground floor (LC.0.100)
Room A/B, D5 - Department Building, ground floor (D5.0.001 / D5.0.002)
Room C/D/E, D5 - Department Building, 1st floor (D5.1.001 / D5.1.002 / D5.1.003)
Mensa Cafeteria, D1/TC - Teaching Center, ground floor

Monday, September 9, 2019, morning

8:00 – 8:50	LC Forum **Registration**
8:50 – 9:00	Ceremonial Hall **Welcome Address**

	Ceremonial Hall, Chair: Rüdiger Frey
9:00 – 9:50	Sebastian **Jaimungal** (University of Toronto) "Mean-Field Games with Differing Beliefs for Algorithmic Trading"
9:50 – 10:40	Beatrice **Acciaio** (London School of Economics) "Causal optimal transport as a tool in time-dependent optimization"

LC Forum
10:40 – 11:20 Coffee Break & Poster Session

Room **A** Chair: Christa Cuchiero	Room **B** Chair: Marcel Nutz	Room **C** Chair: Julien Guyon	Room **D** Chair: Rüdiger Frey	Room **E** Chair: Fred Espen Benth
11:20 – 12:05 Damir **Filipovic** (EPFL and Swiss Finance Institute) "A machine learning approach to portfolio risk management"	11:20 – 11:50 Tobias **Fissler** (Imperial College London) "Elicitability of Range-Value-at-Risk"	11:20 – 11:50 Zhuoqun **Liang** (Stockholm School of Economics) "Stochastic volatility models for VIX option pricing"	11:20 – 11:50 Natalie **Packham** (Hochschule für Wirtschaft und Recht Berlin) "Rating migration processes based on conditional transition matrices"	11:20 – 11:50 Troels Sønderby **Christensen** (Aalborg University) "A dynamic programming approach for optimizing shipping scheduling in the liquefied natural gas market"
12:05 – 12:50 Kathrin **Glau** (Queen Mary University of London) "Low Rank Tensor Approximation and Deep Learning for Parametric Option Pricing"	11:50 – 12:20 Olivier **Le Courtois** (emlyon business school) "Mean-risk and stochastic dominance: a comparison of efficient frontiers"	11:50 – 12:20 Takuji **Arai** (Keio University) "Pricing and hedging of VIX options for Barndorff-Nielsen and Shephard models"	11:50 – 12:20 Nils **Bertschinger** (Frankfurt Institute for Advanced Studies) "Financial cross-ownership as a structural explanation for rising stock correlations in crisis times"	11:50 – 12:20 Janus **Valberg-Madsen** (Aalborg University) "A vine copula panel model for day-ahead electricity prices"
	12:20 – 12:50 Oliver **Lubos** (University of Duisburg-Essen) "Natural hedging with fix and floating strike guarantees"	12:20 – 12:50 Jiling **Cao** (Auckland University of Technology) "Pricing variance swaps under hybrid CEV and stochastic volatility"	12:20 – 12:50 Vladimir S. **Ladyzhets** (University of Connecticut) "Probability space of regression models and its applications to credit and operational risks"	12:20 – 12:50 Andrea **Mazzoran** (University of Padova) "A forward model for power markets based on branching processes."

Mensa Cafeteria / LC Forum
12:50 – 14:10 Lunch Break / Poster Session

Monday, September 9, 2019, afternoon

Room **A** Chair: Mathias Beiglböck	Room **B** Chair: Kathrin Glau	Room **C** Chair: Antoine Jacquier	Room **D** Chair: Daniela Escobar	Room **E** Chair: Blanka Horvath
14:10 – 14:55 Marcel **Nutz** (Columbia University) "Fine Properties of the Optimal Skorokhod Embedding Problem" 14:55 – 15:40 Sigrid **Källblad** (KTH Royal Institute of Technology) "Stochastic control of measure-valued martingales with applications to robust finance"	14:10 – 14:40 Antonino **Zanette** (University of Udine) "Machine learning for pricing American options in high dimension"	14:10 – 14:40 Assad **Majid** (TU Dresden) "A comparison principle between classical and rough Heston models"	14:10 – 14:40 Gabriela **Kovacova** (WU Vienna) "Time consistency of the mean-risk problem"	14:10 – 14:40 Max **Souza** (Universidade Federal Fluminense) "Pricing options with non-uniform Fourier transform"
	14:40 – 15:10 Luca **De Gennaro Aquino** (Grenoble École de Management) "Bounds on multiasset derivatives via neural networks"	14:40 – 15:10 ~~Mesias **Alfeus** (University of Wollongong)~~ ~~"Regime switching rough Heston model"~~	14:40 – 15:10 Moris Simon **Strub** (The Chinese University of Hong Kong) "Forward rank-dependent performance criteria: time-consistent investment under probability distortion"	14:40 – 15:10 Moritz **Voss** (University of California, Santa Barbara) "A two-player price impact game"
	15:10 – 15:40 Anastasis **Kratsios** (ETH Zurich) "Universal Approximation Theorems"	15:10 – 15:40 Eduardo **Abi Jaber** (École Polytechnique) "Reconciling rough volatility with jumps"	15:10 – 15:40 Alessandro **Calvia** (University of Milano-Bicocca) "Risk measures and progressive enlargement of filtrations: a BSDE approach"	15:10 – 15:40 Sofonias Alemu **Korsaye** (University of Geneva, Swiss Finance Institute) "Smart SDFs"

LC Forum
15:40 – 16:10 Coffee Break & Poster Session

	Ceremonial Hall, Chair: Uwe Schmock
16:10 – 17:00	Paul **Embrechts** (ETH Zurich) "Hawkes graphs: A graphical tool for the analysis of multi-type event streams"
17:10 – 18:00	**Panel Discussion** "The big data revolution in mathematical finance**"**

	LC Forum
18:00 – 19:30	**Welcome Reception** **& Poster Presentation**

New Abstract which is not in the printverson "Abstracts of talks"

Invited talk: Wed, 11:45-12:30, room A

Josef **Teichmann** (ETH Zurich)

Representing dynamics through random dynamical systems

We re-discover the paradigm of reservoir computing in stochastic or rough differential equations and prove generalization bounds. This opens a new perspective on randomness in recurrent neural networks and on the approximation of stochastic or rough differential equations. Applications to time series prediction and term structure problems are discussed.

Joint work with Christa Cuchiero, Lukas Gonon, Martin Larsson, Lyudmilla Grigoryeva and Juan-Pablo Ortega.

VCMF 2019 –Conference

Tuesday, September 10, 2019, morning

	Ceremonial Hall, Chair: Mathias Beiglböck
9:00 – 9:50	Fred Espen **Benth** (University of Oslo) "Stochastic volatility in energy and commodity forward markets"
9:50 – 10:40	Christa **Cuchiero** (WU Vienna) "Deep neural networks, generic universal interpolation and controlled differential equations"

LC Forum
10:40 – 11:10 Coffee Break & Poster Session

Room **A** Chair: Stefan Gerhold	Room **B** Chair: Christa Cuchiero	Room **C** Chair: Luitgard A. M. Veraart	Room **D** Chair: Peter Bank	Room **E** Chair: Bruno Bouchard
11:10 – 11:55 Julien **Guyon** (Bloomberg, Columbia Univ., New York Univ.) "The Joint S&P 500/VIX Smile Calibration Puzzle Solved: A Dispersion-Constrained Martingale Transport Approach"	11:10 – 11:40 Mathias **Pohl** (University of Vienna) "Robust risk aggregation with neural networks"	11:10 – 11:40 Laura **Garcia-Jorcano** (Universidad de Castilla-La Mancha) "Measuring systemic risk using multivariate quantile-located ES models"	11:10 – 11:40 Hyungbin **Park** (Seoul National University) "Sensitivity analysis of long-term cash flows"	11:10 – 11:40 Felix-Benedikt **Liebrich** (LMU Munich) "Robustness vs. tractability: the class (S) property"
	11:40 – 12:10 Philipp **Schmocker** (University of St. Gallen) "Deep stochastic portfolio theory"	11:40 – 12:10 Martin **Summer** (Oesterreichische Nationalbank) "Systematic systemic stress tests"	11:40 – 12:10 Cosimo **Munari** (University of Zurich) "Robust portfolio selection under regulatory constraints"	11:40 – 12:10 Max **Nendel** (Bielefeld University) "Semigroup envelopes and Markov processes under nonlinear expectation"
11:55 – 12:40 Archil **Gulisashvili** (Ohio University) "Gaussian Stochastic Volatility Models: Scaling Regimes, Large Deviations, and Moment Explosions"	12:10 – 12:40 Hanna **Wutte** (ETH Zurich) "Randomized shallow neural networks and their use in understanding gradient descent"	12:10 – 12:40 Nils **Detering** (University of California Santa Barbara) "Suffocating Fire Sales"	12:10 – 12:40 Hanwu **Li** (Bielefeld University) "Optimal consumption with Hindy-Huang-Kreps preference"	12:10 – 12:40 Julio **Backhoff-Veraguas** (University of Vienna and TU Wien) "Adapted Wasserstein distances and their role in mathematical finance"

12:45 – 13:45	**Guided Architectural Walk on WU Campus** (registration necessary in advance)

Mensa Cafeteria
12:40 – 14:30 Lunch Break

VCMF 2019 –Conference

Tuesday, September 10, 2019, afternoon

Room **A** Chair: Zehra Eksi-Altay	Room **B** Chair: Michèle Vanmaele	Room **C** Chair: Stefan Gerhold	Room **D** Chair: Damir Filipovic	Room **E** Chair: Uwe Schmock
14:30 – 15:15 Peter **Bank** (TU Berlin) "Trading with transient price impact"	14:30 – 15:00 Rafael **Serrano** (Universidad del Rosario) "ALM for insurers in a Lévy-type jump-diffusion model with multiple underwriting lines and nonlinear wealth frictions"	14:30 – 15:00 Carlo **Sgarra** (Politecnico di Milano) "A Gamma Ornstein-Uhlenbeck model driven by a Hawkes process"	14:30 – 15:00 Alexander **Herbertsson** (University of Gothenburg) "Dynamic hedging of CDS index options in Markov chain models"	14:30 – 15:00 Nikolay **Gudkov** (ETH Zurich) "Pricing and hedging of guaranteed minimum benefits using power series approximation techniques"
	15:00 – 15:30 Sascha **Offermann** (University of Duisburg-Essen) "Participating life insurance contracts with periodic premium payments under regime switching"	15:00 – 15:30 Sven **Karbach** (University of Amsterdam, KdVI) "Ornstein-Uhlenbeck processes in Hilbert spaces with state-dependent stochastic volatility"	15:00 – 15:30 Nneka Ozioma **Umeorah** (North-West University) "Valuation of basket credit default swaps under stochastic default intensity models"	15:00 – 15:30 Emilio **Barucci** (Politecnico di Milano) "On the design of Sovereign Bond-Backed Securities"
15:15 – 16:00 Eyal **Neuman** (Imperial College London) "Deterministic vs Adaptive Strategies for Optimal Execution with Signals"	15:30 – 16:00 Corina **Birghila** (University of Vienna) "Pareto robust reinsurance contracts"	15:30 – 16:00 Jan **Pospíšil** (University of West Bohemia) "Robustnes and sensitivity analyses for rough fractional stochastic volatility models"	15:30 – 16:00 Roberto **Baviera** (Politecnico di Milano) "A closed formula for illiquid corporate bonds and an application to the European market"	15:30 – 16:00 Pawel **Sobala** (UNIQA Insurance Group) "Pricing Cyber-Insurance using Copula Based Actuarial Model"

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D5 – Department Building, 1st floor
16:00 – 16:30 Coffee Break

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Room **A** Chair: Tobias Fissler	Room **B** Chair: Katia Colaneri	Room **C** Chair: Carlo Sgarra	Room **D** Chair: Max Souza
16:30 – 17:15 Zachary **Feinstein** (Washington University in St. Louis) "Leverage and Capital Ratio Constrained Fire Sales and Price-Mediated Contagion"	16:30 – 17:00 Zehra **Eksi-Altay** (WU Vienna) "Momentum and mean reversion under partial information"	16:30 – 17:00 David **Shkel** (University of Hagen) "Model risk in a rough world"	16:30 – 17:00 Máté **Gerencsér** (IST Austria) "Discrete approximations of SDEs with irregular drift"
	17:00 – 17:30 Sühan **Altay** (WU Vienna) "Optimal converge trading with unobservable pricing errors"	17:00 – 17:30 Marc **Lagunas Merino** (University of Oslo) "Pricing and hedging unit-linked policies under rough fractional stochastic volatility (RFSV) models"	17:00 – 17:30 Christian **Pötz** (Queen Mary University of London) "Efficient pricing and exposure calculation for early-exercise options using Chebyshev Interpolation"
17:15 – 18:00 Ying **Jiao** (Université Claude Bernard Lyon 1) "A branching process approach to default clustering modelling"	17:30 – 18:00 Thijs **Kamma** (Maastricht University) "Near-optimal investment strategies in incomplete markets"	17:30 – 18:00 Michele **Azzone** (Politecnico di Milano) "Additive normal tempered stable processes for equity derivatives and power law scaling"	17:30 – 18:00 ~~Samson Adekola **Alagbe** (Isaac Jasper Boro COE, Sagbama) "Derivation and application of a class of hybrid Adams Moulton schemes with continuous coefficients"~~

19:00 – 23:00	**Conference Dinner** **at the Vienna City Hall**

VCMF 2019 –Conference

Wednesday, September 11, 2019, morning

Room **A** Chair: Junjian Yang	Room **B** Chair: Bruno Bouchard	Room **C** Chair: Sühan Altay	Room **D** Chair: Miklos Rasonyi
9:00 – 9:45 Nikolaus **Hautsch** (University of Vienna) "Limits to Arbitrage in Markets with Stochastic Settlement Latency" 9:45 – 10:30 Emmanuel **Bacry** (École Polytechnique and Université Paris-Dauphine) "Disentangling and quantifying market participant volatility contributions"	9:00 – 9:30 Ludovic **Mathys** (University of Zurich) "Intra-horizon expected shortfall and risk structure in models of jumps"	9:00 – 9:30 Katia **Colaneri** (University of Leeds) "Value adjustments and dynamic hedging of reinsurance counterparty risk"	9:00 – 9:30 Alexander **Molitor** (Goethe-Universität) "Prospective strict no-arbitrage and the fundamental theorem of asset pricing under transaction costs"
	9:30 – 10:00 Michèle **Vanmaele** (Ghent University) "Utility maximization under time change"	9:30 – 10:00 Stefan **Rigger** (University of Vienna) "Interacting particle systems, default cascades and the M1-topology"	9:30 – 10:00 Alet **Roux** (University of York) "Optimal investment and contingent claim valuation with disutility under proportional transaction costs"
	10:00 – 10:30 Thomas **Liebmann** (Thomas Liebmann) "Subordination, conditional expectations, and integration by parts"	10:00 – 10:30 Pavel V. **Gapeev** (London School of Economics) "Projections in enlargements of filtrations under Jacod's hypothesis and pricing of credit default swaps in two-dimensional models with various information flows"	10:00 – 10:30 José **Orihuela** (Murcia University) "Mackey constraints for Lebesgue risk measures"

D5 – Department Building, 1st floor
10:30 – 11:00 Coffee Break

Room **A** Chair: Irene Klein	Room **B** Chair: Eyal Neuman	Room **C** Chair: Thorsten Rheinländer	Room **D** Chair: Archil Gulisashvili
11:00 – 11:45 Luitgard A. M. **Veraart** (London School of Economics) "When does portfolio compression reduce systemic risk?" 11:45 – 12:30 New: Josef **Teichmann** (ETH Zurich) "Representing dynamics through random dynamical systems" ~~2019-09-04: cancelled:~~ ~~Nizar **Touzi**~~ ~~(École Polytechnique)~~	11:00 – 11:30 Zsolt **Nika** (Pázmány Péter Catholic University) "Log-optimal investments and adaptive strategies (based on Stochastic Gradient)"	11:00 – 11:30 Markus **Ulze** (University of Augsburg) "Determinants of implied volatility smiles – An empirical analysis using intraday DAX equity options"	11:00 – 11:30 Salvador **Ortiz-Latorre** (University of Oslo) "A Hull-White formula for fractional volatility Lévy models"
	11:30 – 12:00 Kinga **Tikosi** (Central European University) "Optimizing threshold-type trading strategies with Kiefer-Wolfowitz algorithm"	11:30 – 12:00 Jun **Chen** (University of New South Wales) "Application of exponential moving average smoothing to the computation of realized variance for irregular spaced high frequency data"	11:30 – 12:00 Martin **Haubold** (TU Dresden) "Fractionally time-changed polynomial models"
	12:00 – 12:30 Adriano **Koshiyama** (University College London) "Generative adversarial networks for financial trading strategies"	12:00 – 12:30 Dragana **Radojicic** (FAM @ TU Wien) "Random arrival times for the LOB (Limit Order Book) in the discrete time approximation"	12:00 – 12:30 Sara **Svaluto-Ferro** (University of Vienna) "Infinite dimensional polynomial jump-diffusions"

Mensa Cafeteria
12:30 – 13:30 Lunch Break

VCMF 2019 –Conference

Wednesday, September 11, 2019, afternoon

Room A Chair: Friedrich Hubalek	Room B Chair: Nikolaus Hautsch	Room C Chair: Eyal Neuman	Room D Chair: Martin Summer	Room E Chair: Zachary Feinstein
13:30 – 14:15 Blanka **Horvath** (King's College and Imperial College London) "Deep pricing and hedging in rough volatility models and beyond" 14:15 – 15:00 Miklos **Rasonyi** (Alfred Renyi Institute of Mathematics) "Optimal investment and correlation decay"	13:30 – 14:00 Jana **Hlavinová** (WU Vienna) "Elicitabity and identifiability of systemic risk measures" 14:00 – 14:30 Alexander **Smirnow** (University of Zurich) "Systemic intrinsic risk measures" 14:30 – 15:00 Maria **Arduca** (Università degli Studi di Milano Bicocca) "A simple approach to duality for systemic risk measures"	13:30 – 14:00 Michele **Giordano** (University of Oslo) "Maximum principles for Volterra time change processes" 14:00 – 14:30 Andrea **Fiacco** (University of Oslo) "On the approximation of Lévy driven Volterra processes and their integrals" 14:30 – 15:00 Wahid **Khosrawi** (ETH Zurich) "Polynomial Semimartingales"	13:30 – 14:00 Kevin **Kurt** (WU Vienna) "Sovereign Bond backed Securities as a new safe Asset for the Eurozone: a dynamic Credit Risk Perspective" 14:00 – 14:30 Camilla **Damian** (WU Vienna) "EM algorithm for a CIR process with Markov-modulated mean reversion level and application to Eurozone credit spreads" 14:30 – 15:00 Rainer **Hirk** (WU Vienna) "A joint model of failures and credit ratings"	13:30 – 14:00 Wayne **Tarrant** (Rose-Hulman Institute of Technology) "Financial contagion and self-organized criticality" 14:00 – 14:30 Vilen **Abramov** (BB&T) "CCAR-consistent yield curve stress testing: from Nelson-Siegel to machine learning" 14:30 – 15:00 Axel Alejandro **Araneda** (Frankfurt Institute for Advanced Studies) "The fractional Jump-to-Default CEV model: pricing CDS with memory"

D5 – Department Building, 1st floor
15:00 – 15:20 Coffee Break

	Room A, Chair: Thorsten Rheinländer
15:20 – 16:05	Bruno **Bouchard** (Université Paris-Dauphine) "Dual formulation for perfect hedging with price impact"
16:05 – 16:50	Antoine **Jacquier** (Imperial College London) "Deep learning and Path-dependent PDEs for rough local stochastic volatility"
16:50 – 17:20	Closing Talk: Walter **Schachermayer** (University of Vienna) "From discrete to continuous time models: Some surprising news on an old topic"
17:20 – 17:30	Closing Remarks