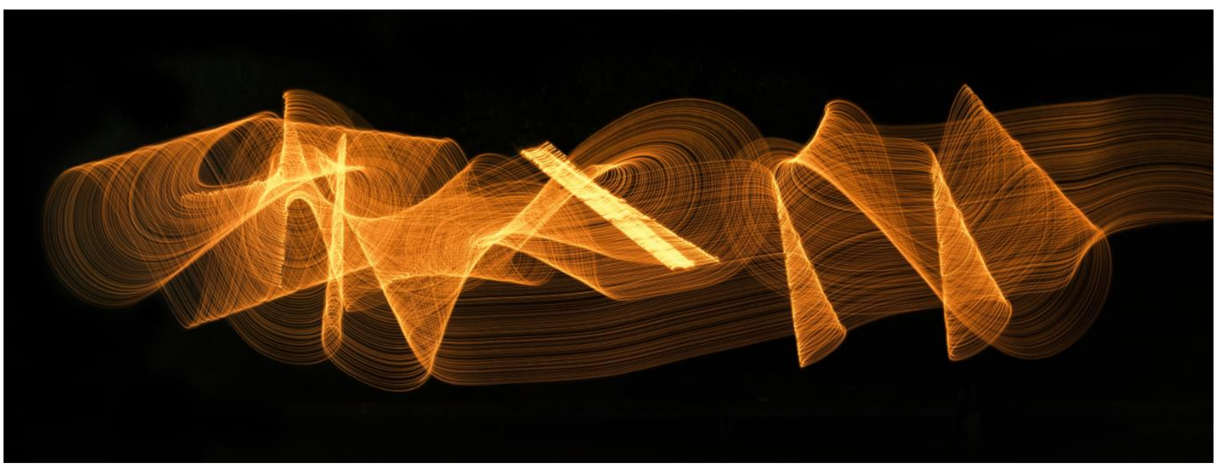
Program

Remote international conference [Ver. 1.3]

eMAF2020



September, 18, 22 and 25, 2020

On the Net

Organizers and Partners

Schedule

September 18, 2020

13:20-14:00	Openings
14:00-15:30	Parallel sessions A (A.1, A.2, A.3, A.4)
15:30-16:30	Parallel sessions B (B.1, B.2, B.3)
16:30-17:20	Tutorial (Plenary session)
17:20-19:00	Parallel sessions C (C.1, C.2, C.3, C.4)

September 22, 2020

14:00-15:00	Parallel sessions D (D.1, D.2, D.3, D.4)
15:00-16:30	Parallel sessions E (E.1, E.2, E.3, E.4)
16:30-17:20	Keynote talk (Plenary session)
17:20-19:00	Parallel sessions F (F.1, F.2, F.3, F.4)

September 25, 2020

13:00-14:30	Parallel sessions G (G.1, G.2, G.3, G.4)
14:30-16:00	Parallel sessions H (H.1, H.2, H.3, H.4)
16:00-16:20	Break
16:20-17:20	Parallel sessions I (I.1, I.2, I.3, I.4)
17:20-18:50	Parallel sessions J (J.1, J.2, J.3)
18:50-19:10	Closings

Notes

Talk
14 minutes for presentation + 4 minutes for questions + 2 minutes for connection changing and slide sharing

Keynote talk / Tutorial
40 minutes for presentation + 10 minutes for questions

Time
UTC+2 (Please, check your local time)

Conference webpage
www.unive.it/emaf2020

September 18, 2020

13:20-14:00	Openings
14:00-15:30	Parallel sessions A (A.1, A.2, A.3, A.4)
15:30-16:30	Parallel sessions B (B.1, B.2, B.3)
16:30-17:20	Tutorial (Plenary session)
17:20-19:00	Parallel sessions C (C.1, C.2, C.3, C.4)

Conference openings: 13:20-14:00

Parallel sessions A: 14:00-15:30

Session A.1 [September 18, 2020 – 14:00-15:30]

Actuarial models for life and health insurance products I

Chair: Anna Rita Bacinello – Organizer: Anna Rita Bacinello

- **G. Piscopo**, E. di Lorenzo, M. Sibillo, R. Tizzano: *Risk assessment in the reverse mortgage contract*
- **P. De Angelis**, F. Baione, D. Biancalana: *A risk-based approach for the solvency capital requirement for health plans*
- **A. Balbas**: *Optimal investment with information about the level II market data of the order book*

Session A.2 [September 18, 2020 – 14:00-15:30]

Modelling and forecasting financial time series

Chair: Marcella Niglio – Organizer: Marcella Niglio

- ***G. Goracci***, K.-S. Chan, S. Giannerini, H. Tong: *Unit-root test within a threshold ARMA framework*
- **M. Niglio**, F. Giordano: *Optimal nonlinear autoregressive predictors under asymmetric loss functions*
- **P. Coretto**, M. La Rocca, G. Storti: *A GARCH-type model with cross-sectional volatility clusters*
- **M. Marchese**, I. Kyriakou, M. Tamvakis, F. Di Iorio: *Forecasting co-movements in energy futures: the role of structural breaks in short and long-run correlation components*

Session A.3 [September 18, 2020 – 14:00-15:30]

Intelligent tools for decision making in finance I

Chair: Dominique Guegan – Organizer: Marco Corazza, Dominique Guegan

- **J. Chevallier**, D. Guegan, S. Goutte: *Is it possible to forecast the price of Bitcoin?*
- **E. Vittori**, L. Bisi, L. Sabbioni, M. Papini, M. Restelli: *Risk-averse trust region optimization for reward-volatility reduction*
- **M. Corazza**: *A comparison among reinforcement learning algorithms in financial trading systems*
- **M.N. Bernasconi de Luca**, E. Vittori, F. Trovo, M. Restelli: *Using online gradient descent to deal with transaction costs in online portfolio optimization*

Session A.4 [September 18, 2020 – 14:00-15:30]

Optimization in finance I

Chair: Diana Barro – Organizer: eMAF2020

- **S. Kou**: *A general Monte Carlo algorithm for stochastic control problems in economics with monotonicity*
- **P. Johnson**, A. Loukatou, P. Duck, S. Howell: *Optimally dispatching a battery storage unit to maximise the revenue of a wind farm*

- **R. Maggistro**, M. Corazza, R. Pesenti: *MFG-based trading model with information costs*
- **A. Candelieri,** S. Bencini, F. Archetti: *Adaptive trend following strategy using random forest based Bayesian optimization*

Parallel sessions B: 15:30-16:30

Session B.1 [September 18, 2020 – 15:30-16:30]

Industry sponsored session

Chair: Emanuele B. Ferreri – Organizer: Egonon

- **R. Donati**, M. Corazza: *Robomanagement, the virtualization of an entire investment committee*
- **V. Arcadio Roy**: *MIFID II and the impact on ETFs*
- **R. Hochreiter**: *Optimal asset allocations for Robo advisory tools using artificial intelligence*

Session B.2 [September 18, 2020 – 15:30-16:30]

Life insurance and related issues

Chair: Gabriella Piscopo – Organizer: eMAF2020

- **S. Yin**, E. Valdez, D. Dey: *Skewed link regression models for imbalanced binary response with application to life insurance*
- **J. Tang**: *Efficient hedging of a guaranteed minimum accumulation benefit with Heston-type volatility-dependent fees*
- **C. Di Palo**: *Longevity risk sharing in life annuities under demographic compensation*

Session B.3 [September 18, 2020 – 15:30-16:30]

Econometric methods for financial risk management

Chair: TBA – Organizer: eMAF2020

- **U. Ulrych**, P. Polak: *Dynamic currency hedging using non-Gaussian returns model*
- **G. Rivieccio**, G. De Luca, M.L. Bianchi: *Backtesting CoVaR with volatility clustering, heavy tails and non-linear dependence*

Tutorial: 16:30-17:20 [Plenary session]

G. Fasano: *An overview of metaheuristics for optimization*

Parallel sessions C: 17:20-19:00

Session C.1 [September 18, 2020 – 17:20-19:00]

High frequency data in economics and finance

Chair: Alessandra Amendola – Organizer: Alessandra Amendola

- **M. Restaino**, F. Giordano, M. Niglio: *Screening covariates in presence of an unbalanced binary dependent variable*
- **A. Amendola**, V. Candila, F. Cipollini, G. Gallo: *On the use of mixed sampling in forecasting realized volatility: The MEM-MIDAS*
- **V. Candila**, L. Petrella: *Conditional quantile estimation for linear ARCH models with MIDAS components*
- **L. Leonida**, A. Iona: *Is monotonicity of the investment-cash flow sensitivity satisfied?*
- **A. Santos**: *Big-data for high-frequency volatility analysis with time-deformed observations*

Session C.2 [September 18, 2020 – 17:20-19:00]

Portfolio optimization

Chair: Diana Barro – Organizer: eMAF2020

- **I. Foroni**, A.M. Fiori, A. Avellone: *Portfolio optimization with nonlinear loss aversion and transaction costs*
- **K. Colaneri**, S. Herzel, M. Nicolosi: *The value of information for optimal portfolio management*
- **A. Hitaj**, R. Grassi, G.P. Clemente: *Network approaches based on performance and dependence structure for portfolio allocation*
- **C. Pederzoli**, I. Foroni, A. Avellone: *Portfolio optimization in the Basel III regulatory framework*
- **M. Neffelli**, M.E. De Giuli, M. Resta: *Global minimum variance portfolio with minimum regularised covariance determinant estimator*

Session C.3 [September 18, 2020 – 17:20-19:00]

Machine learning and related methods

Chair: Giacomo di Tollo – Organizer: eMAF2020

- **A. Molent**, L. Goudenege, A. Zanette: *Machine learning for pricing American options in high-dimensional Markovian and non-Markovian models*
- **A. Laporta**, L. Petrella, S. Levantesi: *Quantile regression neural network for quantile claim amount estimation*
- **L. Barbaglia**, E. Tosetti, S. Manzan: *Loan default analysis in Europe: Tracking regional variations using big data*
- **G. di Tollo**, J. Andria, S. Tanev: *Neural networks to determine the relationships between business innovation and gender aspects*
- **E. Valdez**, H. Jeong, G. Gan: *Insurance premium optimization with policyholder loyalty*

Session C.4 [September 18, 2020 – 17:20-19:00]

Modelling and forecasting

Chair: TBA – Organizer: eMAF2020

- **M. Juillard**: *An efficient implementation of the Kalman filter in Julia*
- **R. Baragona**, D. Cucina, F. Battaglia: *Periodic autoregressive models for stochastic seasonality*
- **S. Bianchi**, A. Pianese, M. Frezza, A.M. Palazzo: *Stochastic dominance in the outer distributions of the alfa-efficiency domain*
- **Y. Rakotondratsimba**: *Data-driven models for forecasting and pricing*
- **P. Uberti**, C. Fassino, M. L. Torrente: *Numerical stability of optimal mean variance portfolios*

September 22, 2020

14:00-15:00	Parallel sessions D (D.1, D.2, D.3, D.4)
15:00-16:30	Parallel sessions E (E.1, E.2, E.3, E.4)
16:30-17:20	Keynote talk (Plenary session)
17:20-19:00	Parallel sessions F (F.1, F.2, F.3, F.4)

Parallel sessions D: 14:00-15:00

Session D.1 [September 22, 2020 – 14:00-15:00]

Quantitative techniques for banking and finance

Chair: Leone Leonida – Organizer: Leone Leonida

- **M. Dolfin**: *Analysing breakdowns of efficiency in stylized economic networks*
- **A. Iona**, L. Leonida, D. Assefa: *Political replacement effect and financial development: Evidence across countries*
- **E. Muzzupappa**, P. Calice: *Bank concentration and financial stability*

Session D.2 [September 22, 2020 – 14:00-15:00]

Many shades of robustness in risk management

Chair: Valerie Chavez-Demoulin – Organizer: Valerie Chavez-Demoulin

- **P. Embrechts**: *Robust risk allocation*

- **T. Verdonck**, S. Van Aelst, M. Hubert: *Robust statistical tools for claims reserving*
- **H. Zaehle**: *Qualitative robustness of statistically estimated insurance premiums*

Session D.3 [September 22, 2020 – 14:00-15:00]

Evolutionary and heuristic computation in finance

Chair: Joseph Andria – Organizer: eMAF2020

- **A. Spelta**, M.E. De Giuli, D. Lazzari, A. Flori: *Multidimensional visibility for describing the market dynamics around Brexit announcements*
- **J. Andria**, G. di Tollo: *An empirical investigation of heavy tails in emerging markets and robust estimation of the Pareto tail index*

Session D.4 [September 22, 2020 – 14:00-15:00]

Econometrics

Chair: TBA – Organizer: eMAF2020

- **L. Grossi**, S. Golia, M. Pelagatti: *Machine learning models for the prediction of Italian electricity prices: Do they really outperform the benchmark?*
- **W. Grabowski**, A. Welfe: *Currency market tensions and real effective exchange rate in Switzerland*
- **Z. Arfan**: *A stochastic volatility model for optimal market making*

Parallel sessions E: 15:00-16:30

Session E.1 [September 22, 2020 – 15:00-16:30]

Generalised quantiles and applications

Chair: Fabio Bellini – Organizer: Fabio Bellini

- **L. Merlo**, L. Petrella, V. Raponi: *Forecasting multiple VaR and ES using a dynamic joint quantile regression with an application to portfolio optimization*
- **A. Ince**, I. Peri: *Risk contributions under generalised quantile risk measures*

- **V. Bignozzi**, M. Burzoni, C. Munari: *Risk measures based on benchmark loss distributions*
- **F. Bellini**, I. Peri: *On the properties of Lambda quantiles*

Session E.2 [September 22, 2020 – 15:00-16:30]

Data driven management in actuarial science

Chair: Marilena Sibillo – Organizers: Emilia di Lorenzo, Marilena Sibillo, Gabriella Piscopo

- **F. Viviano**, P. Millossovich, A.R. Bacinello: *Monte Carlo valuation of future annuity contracts*
- **S. Levantesi**, M. Marino: *Forecasting neural network Lee-Carter model with parameter uncertainty: The case of Italy*
- **A. Orlando**, M.F. Carfora, G. Palma: *Cyber risk analysis: Critical issues*
- **F. Baione**, D. Biancalana, P. De Angelis: *An application of zero-one inflated beta regression models for predicting health insurance reimbursement*

Session E.3 [September 22, 2020 – 15:00-16:30]

Higher moments in finance and insurance I

Chair: Nicola Loperfido – Organizer: Nicola Loperfido

- **H. Ogasawara**: *The multiple Cantelli inequalities*
- **H.-M. Kim**, J. Zhao: *Multivariate measures of skewness for the scale mixtures of skew-normal distributions*
- **F. Javed**, N. Loperfido, S. Mazur: *Fourth cumulant for multivariate aggregate claim models*

Session E.4 [September 22, 2020 – 15:00-16:30]

New developments in longevity and mortality

Chair: Aurea Grané – Organizer: Aurea Grané

- **J.M. Pavia**, J. Lledo Benito, N. Salazar Vesga: *Mid-year estimators in life tables construction*
- **Z. Song**, C. Boado Penas, S. Arnold: *Adequacy in notional defined contribution pension schemes: A solution*

- **A. Grane**, I. Albarran, R. Lumley: *Health and well-being profiles across Europe*
- **A. Debon**, P. Carracedo: *Implementation in R and Matlab of econometric models applied to ages after retirement in Europe*

Keynote talk: 16:30-17:20 [Plenary session]

Simone Giannerini, Greta Goracci, Howell Tong: *Test for regulation*

Parallel sessions F: 17:20-19:00

Session F.1 [September 22, 2020 – 17:20-19:00]

Modeling and estimation of risk for optimal portfolio selection

Chair: Davide Ferrari – Organizer: Davide Ferrari

- **A. Rigamonti**, D. Ferrari, A. Weissensteiner, S. Paterlini: *Smoothed semicovariance estimation*
- **S. Stoeckl**, A. Weissensteiner, M. Hanke: *Portfolio rules and factor premia under ambiguity*
- **D. Ferrari**: *Robust portfolio diversification by exponential tilting*
- **D.A. Mancuso**, D. Zappa: *Optimal portfolio for basic DAG*

Session F.2 [September 22, 2020 – 17:20-19:00]

Non parametric methods in insurance and finance

Chair: Cira Perna – Organizer: Cira Perna

- **S. Milito**, F. Giordano, M.L. Parrella: *A model-free screening selection approach by local derivative estimation*
- **R. Metulini**: *A semiparametric high-dimensional logistic model with overdispersion and spatial dependence for bankruptcy prediction*
- **C. Iorio**, G. Pandolfo, A. D Ambrosio, R. Siciliano: *Mean-variance portfolio through data depth*

- **D. Karyampas**, A. Didisheim, S. Scheidegger: *Implied risk aversion smile*

Session F.3 [September 22, 2020 – 17:20-19:00]

Financial time series I

Chair: TBA – Organizer: eMAF2020

- **M. Garcin**: *Selection and estimation of fractional and multifractional models*
- **J. Rastegari Koopaei**, L. Stentoft, M. Escobar: *Affine multivariate GARCH models*
- **J. Ojea Ferreiro**: *Deconstructing systemic risk: A reverse stress testing approach*
- **I.L. Amerise**, A. Tarsitano: *Simultaneous prediction intervals for forecasting EUR/USD exchange rate*
- **P. He**, K. Binkowski, N. Kordzakhia, P. Shevchenko: *On modelling of crude oil futures in a bivariate state-space framework*

Session F.4 [September 22, 2020 – 17:20-19:00]

Optimization in finance and insurance

Chair: TBA – Organizer: eMAF2020

- **M. Galeotti**, G. Rabitti, E. Vannucci: *A block-chain approach to flood risk insurance*
- **A. Riva**: *Risk/return/retention efficient frontier discovery through evolutionary optimization for non-life insurance portfolio*
- **C. Oarda**: *Moral hazard in health insurance: Modelling the behaviour of the insured and the optimal contract*
- **F. Parpinel**, M. Corazza, C. Pizzi: *Trading system mixed-integer optimization by PSO*

September 25, 2020

13:00-14:30	Parallel sessions G (G.1, G.2, G.3, G.4)
14:30-16:00	Parallel sessions H (H.1, H.2, H.3, H.4)
16:00-16:20	Break
16:20-17:20	Parallel sessions I (I.1, I.2, I.3, I.4)
17:20-18:50	Parallel sessions J (J.1, J.2, J.3)
18:50-19:10	Closings

Parallel sessions G: 13:00-14:30

Session G.1 [September 25, 2020 – 13:00-14:30]

Building a fair and sustainable pension scheme

Chair: Vincent Touze – Organizer: Vincent Touze

- **A.M. Garvey**, M. Ventura-Marco, C. Vidal Melia: *The importance of reporting a pension systems income statement in a fair and sustainable scheme*
- **C. Boado Penas**, J. Eisenberg, R. Korn: *Optimal strategies for public pension systems: A mixed approach*
- **V. Touze**, F. Legros, F. Gannon: *ABM and discount rate: Towards an optimal transition to balance PAYG pension scheme without intertemporal dictatorship*

Session G.2 [September 25, 2020 – 13:00-14:30]

Financial time series II

Chair: Agnieszka Jach – Organizer: Agnieszka Jach

- **N. Ahlgren**, L.T. Bui: *Hedging with constant conditional optimal hedge ratios*
- **H. Nyberg**: *Risk-return relation in stock returns under economic constraints*
- **L. Vitale**, M. La Rocca: Clustering time series by nonlinear dependence
- **A. Jach**: *A general comovement measure for time series*

Session G.3 [September 25, 2020 – 13:00-14:30]

Higher moments in finance and insurance II

Chair: Nicola Loperfido – Organizer: Nicola Loperfido

- **N. Loperfido**: *Multivariate kurtosis for invariant coordinate selection*
- **T. Kollo**: *Asymptotic normality for parameter estimators of skew t copula*
- **C. Kleiber**: *Some moment-indeterminate distributions from actuarial science*

Session G.4 [September 25, 2020 – 13:00-14:30]

Insurance I

Chair: Alba Orlando – Organizer: eMAF2020

- **R. Anisa**, D. Kusumaningrum, V.A. Sutomo, K.S. Tan: *Potential of reducing crop insurance subsidy based on willingness to pay and random forest analysis*
- **S. Acemoglu**, C. Kleiber: *Boosting actuarial regression models*
- **G. Melisi**, N.E. DOrtona, P. Fersini, S. Forte: *Financial reinsurance of the claims reserve through swap schemes*
- **M. Pirra**, M. Menzietti: *Weather index-based insurance in advanced agricultural risk management*

Parallel sessions H: 14:30-16:00

Session H.1 [September 25, 2020 – 14:30-16:00]

Econometric methods for financial risk management

Chair: Luca Trapin – Organizer: Luca Trapin

- **G. Buccheri**, S.J. Koopman: *A high-dimensional realized covariance dynamic factor model: Analysis, estimation and forecasting*
- **L. Trapin**, D. Dupuis: *Liquidity tail risk in the wake of the financial crisis: Evidence from the U.S. stock market*
- **R. Panzica**, L. Alessi, E. Ossola: *The Greenium matters: Evidence on the pricing of climate risk*
- **G. Vacca**, M.G. Zoia, P. Quatto: *Modelling between-squares dependence in financial data via a Gram-Charlier-like copula*

Session H.2 [September 25, 2020 – 14:30-16:00]

Optimization in finance II

Chair: Maria L. Torrente – Organizer: eMAF2020

- **G. Albano**, M. La Rocca, C. Perna: *A comparison among alternative parameters estimators in the Vasicek process: A small sample analysis*
- **T. Kamma**, A. Pelsser: *Near-optimal dynamic asset allocation in financial markets with trading constraints*
- **A. Oyenubi**: *Stochastic dominance and portfolio construction under heuristic optimization*
- **M. Nardon**, D. Barro, M. Corazza: *Behavioral aspects in portfolio selection*

Session H.3 [September 25, 2020 – 14:30-16:00]

Insurance II

Chair: Valeria D’Amato – Organizer: eMAF2020

- **F. Della Corte**, N. Savelli, G.P. Clemente: *A stochastic model to quantify demographic profit and loss coherent with the market consistent valuation*
- **D. Kusumaningrum**, R. Anisa, K.S. Tan, V.A. Sutomo: *Developing alternative area yield index-based crop insurance policies in Indonesia*

- **G. Cantaluppi**, D. Zappa: *Modelling topics of car accidents events: A text mining approach*
- **D. Makariou**, P. Barrieu, Y. Chen: *A random forest based approach for predicting spreads in the primary catastrophe bond market*

Session H.4 [September 25, 2020 – 14:30-16:00]

General

Chair: TBA – Organizer: eMAF2020

- **Y. Kaniovski**, S. Kaniovski, T. Gaertner: *Numerical estimation of some characteristics of credit and systemic risk*
- **M. Boccia**: *Formal and informal microfinance in Nigeria: Which of them works?*
- **S. Zedda**, M. Patane, L. Miggiano: *The role of correlation in systemic risk: Mechanisms, effects, and policy implications*

Break: 16:00-16:20

Parallel sessions I: 16:20-17:20

Session I.1 [September 25, 2020 – 16:20-17:20]

Credit risk methods and models

Chair: Marco Tolotti – Organizer: eMAF2020

- **J. Giacomelli**, L. Passalacqua: *Improved precision in calibrating CreditRisk+ model for credit insurance applications*
- **A. Didisheim**, S. Scheidegger, H. Chen: *Adaptive machine learning: An application to credit risk modeling*
- **L. Tibiletti**, M. Uberti: *A measure for the extra-costs to evaluate the global cost of credit*

Session I.2 [September 25, 2020 – 16:20-17:20]

Intelligent tools for decision making in finance II

Chair: Marco Corazza – Organizer: Marco Corazza, Dominique Guegan

- **D. Guegan**: *Bias in machine learning systems and how to analyse it*
- **M.E. De Giuli**, M. Resta: *Object-oriented Bayesian networks for the detection of the determinants of money laundering*
- **A. Flori**, D. Regoli: *Pairs-trading strategies with recurrent neural networks market predictions*

Session I.3 [September 25, 2020 – 16:20-17:20]

The natural rate of interest: Methods, issues, and developments

Chair: Daniel Buncic – Organizer: Daniel Buncic

- **D. Buncic**: *Econometric issues with Laubach and Williams' estimates of the natural rate of interest*
- **K. Pallara**, J.-P. Renne: *Fiscal limits and sovereign credit spreads*
- **L. Milivojevic**, R. Beyer: *R star track: Dynamics and determinants of world equilibrium interest rates*

Session I.4 [September 25, 2020 – 16:20-17:20]

Forecasting

Chair: TBA – Organizer: eMAF2020

- ***Mora Valencia****, E. Molina, J. Perote: On the prediction of financial market crashes through the analysis of the tail index behavior*
- **K. Syuhada**: *Risk sharing allocation based on the improved VaR and dependent expected shortfall for aggregate risk models*
- **L. Botev**, P. Johnson: *Applications of statistical process control in the management of Unaccounted for Gas*

Parallel sessions J: 17:20-18:50

Session J.1 [September 25, 2020 – 17:20-18:50]

Actuarial models for life and health insurance products II

Chair: Anna Rita Bacinello – Organizer: Anna Rita Bacinello

- **E. Russo**, M. Costabile, I. Massabo, A. Staino: *A lattice approach to evaluate participating policies in a stochastic interest rate framework*
- **E. Pitacco**, D. Tabakova: *Heterogeneity and uncertainty in a multistate framework*
- **M. Menzietti**, S. Levantesi: *Modelling health transitions in Italy: A generalized linear model with disability duration*
- **S. Scognamiglio**, Z. Marino, L. Passalacqua, F. Perla, U. Fiore, P. Zanetti, G. Castellani: *Nested stochastic simulations under actuarial uncertainty*

Session J.2 [September 25, 2020 – 17:20-18:50]

Risk analysis

Chair: Pierpaolo Uberti – Organizer: eMAF2020

- **R. Pang**, L. Veraart: *Assessing fire-sales risk in reconstructed financial networks*
- **R. Casarin**, G. Carallo, C. Robert: *A Bayesian generalized Poisson model for cyber risk analysis*
- **D.A. Kancs**: *Green stress testing and sustainable finance*
- **M. Rahsepar**, F. Xanthos: *Transformed norm risk measures on their natural domain*

Session J.3 [September 25, 2020 – 17:20-18:50]

Derivatives

Chair: TBA – Organizer: eMAF2020

- **G. Villani**, G. D Amico: *Valuation of R&D sequential exchange option using a Markov chain approach*
- **G. Alobaidi**: *Valuing semi-American putable bonds under CIR*
- **F. Zeddouk**, P. Devolder: *Pricing of longevity derivatives and cost of capital*
- **E. Rroji**, A. Perchiazzo, L. Mercuri: *Pricing of futures with a CARMA(p,q) model driven by a time changed Brownian motion*

Conference closings: 18:50-19:10