# PROGRAM

*Second Italian Meeting*

*on*

*Probability and Mathematical Statistics*

June 17 - 20, 2019, Vietri sul Mare (SA), Italy

# Monday 17th June

| | |
|---|---|
| 8:00 - 9:30 | Registration |

| | |
|---|---|
| 9:30 - 10:15 | Opening |

**10:15 - 11:10** **Plenary Talk** (Room F)
*Intrinsic volumes of convex bodies and cones: concentration, limit theorems and sparse recovery*
**Giovanni Peccati**, Luxembourg University
Chair: D. Marinucci, University of Roma Tor Vergata

| | |
|---|---|
| 11:10 - 11:45 | Coffee break |

Session S17F1 *New applications of the Stein-Malliavin method for Gaussian approximation* (Room F)
Organizer/Chair: A. Vidotto, University of Roma Tor Vergata

11:45 - 12:10 *Stein-Malliavin techniques and Poisson based U-statistics: asymptotics*
C. Durastanti, Sapienza University, Roma
12:10 - 12:35 *Stein-Malliavin approximation for local geometric functionals of random spherical harmonics*
A.P. Todino, Ruhr University Bochum
12:35 - 13:00 *Stein-Malliavin techniques for spherical functional autoregressions*
A. Caponera, Sapienza University, Roma

Session S17E1 *Conditional expectations and Bayesian nonparametric problems* (Room E)
Chair: F. Spizzichino, Sapienza University, Roma

11:45 - 12:10 *A Bayes nonparametric prior for semi-Markov processes*
P. Muliere, Bocconi University
12:10 - 12:35 *Can one define conditional expectations for probability charges?*
C. Sempi, University of Salento
12:35 - 13:00 *Clustering structure for species sampling sequences with general base measure*
F. Bassetti, Polytechnic University of Milano

Session S17D1 *Stochastic processes and applications in finance* (Room D)
Organizers/Chairs: E. Di Nardo, University of Torino
P. Semeraro, Polytechnic University of Torino

11:45 - 12:10 *Insurance capacity*
E. Luciano, University of Torino
12:10 - 12:35 *Asymptotic results for the Fourier estimator of the integrated quarticity*
M.E. Mancino, University of Firenze
12:35 - 13:00 *On the combinatorics of cumulants for multivariate subordinated Lévy processes*
E. Di Nardo, University of Torino

Session S17C1 *Optimal control of random systems* (Room C)
Organizer/Chair: G. Zanco, LUISS Guido Carli

11:45 - 12:10 *Optimal control of a stochastic phase-field model for tumor growth*
L. Scarpa, University of Vienna
12:10 - 12:35 *Some optimal control problems for non-local random systems*
C. Orrieri, University of Trento
12:35 - 13:00 *Path dependent HJB equations via BSDEs*
F. Masiero, University of Milano Bicocca

**Monday 17th June**

| 13:00 – 14:30 Lunch |
|---|

Session S17F2 *Information geometry* (Room F)

Organizers/Chairs: P. Siri, Polytechnic University of Torino, Italy
B. Trivellato, Polytechnic University of Torino, Italy

14:30 - 14:55 *Information geometry of the Gaussian space*
G. Pistone, Collegio Carlo Alberto, Torino, Italy
14:55 - 15:20 *Derivative-free optimization by Wasserstein natural gradient*
L. Malagò, Romanian Institute of Science and Technology, Romania
15:20 - 15:45 *Non-geometric rough paths on manifolds*
E. Rossi Ferrucci, Imperial College London, United Kingdom

Session S17E2 *Advances in stochastic processes* (Room E)

Chair: C. Ceci, University of Chieti-Pescara, Italy

14:30 - 14:55 *On the existence of continuous processes with given one-dimensional distributions*
P. Rigo, University of Pavia, Italy
14:55 - 15:20 *Quasi-infinitely divisible processes and measures*
R. Passeggeri, Imperial College London, United Kingdom
15:20 - 15:45 *Intermediate and small scale limiting theorems for random fields*
R. Maffucci, University of Oxford, United Kingdom

Session S17D2 *Dependence modeling* (Room D)

Organizer/Chair: F. Durante, University of Salento, Italy

14:30 - 14:55 *Nonparametric Bayesian estimation of the extremal dependence*
S. Padoan, Bocconi University, Italy
14:55 - 15:20 *Measuring linear correlation between random vectors*
G. Puccetti, University of Milano, Italy
15:20 - 15:45 *Representation of multivariate Bernoulli distributions with a given set of specified moments*
P. Semeraro, Polytechnic University of Torino, Italy

Session S17C2 *Advanced control problems, stochastic simulation and estimates for diffusions* (Room C)

Chair: C. Macci, University of Roma Tor Vergata, Italy

14:30 - 14:55 *Multi-level Monte-Carlo methods and upper/lower bounds in nested risk computations*
S. De Marco, Ecole Polytechnique, France
14:55 - 15:20 *Estimating functions for discretely observed diffusion processes conditioned to nonabsorption*
R. Sirovich, University of Torino, Italy
15:20 - 15:45 *An algorithm to construct subsolutions of convex optimal control problems*
G. Bet, University of Firenze, Italy

**Monday 17th June**

| 15:45 – 16:15 | Coffee break |
|---|---|

Session S17F3 *Recent developments in stochastic geometry* (Room F)
Organizer/Chair: C. Durastanti, Sapienza University, Roma, Italy

16:15 - 16:40 *Two point function for critical points of a random plane wave*
V. Cammarota, Sapienza University, Roma, Italy
16:40 - 17:05 *Nodal lengths of random spherical harmonics*
M. Rossi, University of Pisa, Italy
17:05 - 17:30 *The isotropic constant of random polytopes*
N. Turchi, University of Luxembourg, Luxembourg
17:30 - 17:55 *Fourth moment theorems on the Poisson space in any dimension*
A. Vidotto, University of Roma Tor Vergata, Italy

Session S17E3 *Stochastic quantization, invariant measures and mean-field limits* (Room E)
Organizer/Chair: G. Pistone, Collegio Carlo Alberto, Torino, Italy

16:15 - 16:40 *Fluctuations of point vortices and 2D Euler invariant measures*
F. Grotto, Scuola Normale Superiore of Pisa, Italy
16:40 - 17:05 *Strong Kac's chaos in the mean-field Bose-Einstein Condensation*
S. Ugolini, University of Milano, Italy
17:05 - 17:30 *Elliptic stochastic quantization*
F. De Vecchi, University of Bonn, Germany

Session S17D3 *Finitely additive probabilities and some of their applications* (Room D)
Organizer/Chair: P. Rigo, University of Pavia, Italy

16:15 - 16:40 *Probability and uncertainty in decision theory*
S. Cerreia-Vioglio, Bocconi University, Italy
16:40 - 17:05 *Decisions under different scenarios in a finitely additive framework*
D. Petturiti, University of Perugia, Italy
17:05 - 17:30 *Finitely additive set-valued measures and applications in economic theory*
N. Urbinati, University of Napoli Federico II, Italy

Session S17C3 *Random interfaces and universality* (Room C)
Organizer/Chair: E. Bisi, University College Dublin, Ireland

16:15 - 16:40 *Corner growth model, symplectic characters, and KPZ universality*
E. Bisi, University College Dublin, Ireland
16:40 - 17:05 *A new universality class for (1+1)-dimensional random interfaces: the Brownian castle*
G. Cannizzaro, University of Warwick, United Kingdom
17:05 - 17:30 *Entropic repulsion for the Gaussian free field conditioned on disconnection by level-sets*
A. Chiarini, ETH Zurich, Switzerland

# Tuesday 18th June

Session S18F1 *Results on stochastic geometry and growth-fragmentation equations* (Room F)
Chair: B. Martinucci, University of Salerno

9:00 – 9:25 *The generalized moment method for parameters estimate in stochastic fibre processes*
A. Micheletti, University of Milano
9:25 – 9:50 *A probabilistic approach to the asymptotic behaviour of the growth-fragmentation equations*
B. Cavalli, University of Zürich
9:50 – 10:15 *On the estimation of the mean density of lower dimensional germ-grain models in* $R^d$
E. Villa, University of Milano

Session S18E1 *Advances in Bayesian modelling* (Room E)
Organizer: I. Pruenster, Bocconi University
Chair: F. Bassetti, Polytechnic University of Milano, Italy

9:00 – 9:25 *Quantifying the dependence structure in Bayesian nonparametric models*
M. Catalano, Bocconi University
9:25 – 9:50 *Hybrid nonparametric priors for clustering*
G. Rebaudo, Bocconi University
9:50 – 10:15 *Closed form Bayesian filtering for multivariate binary time series*
A. Fasano, Bocconi University

Session S18D1 *Recent results in insurance and market dynamics* (Room D)
Chair: F. Pellerey, Polytechnic University of Torino

9:00 – 9:25 *Analytical approximation of counterparty value adjustment*
A. Ramponi, University of Roma Tor Vergata
9:25 – 9:50 *Joint life insurance pricing using extended Marshall-Olkin models*
S. Mulinacci, University of Bologna
9:50 – 10:15 *A new approach to forecast market interest rates*
R.M. Mininni, University of Bari

Session S18C1 *Probabilistic algorithms and games on networks* (Room C)
Organizers/Chairs: M. Quattropani, University of Roma Tre
M. Scarsini, LUISS Guido Carli

9:00 – 9:25 *The buck passing game on networks*
M. Quattropani, University of Roma Tre
9:25 – 9:50 *Processing data sets on networks: random forests and other probabilistic tools*
L. Avena, Leiden University
9:50 – 10:15 *On the emergent behavior of the 2-choices dynamics*
E. Cruciani, Gran Sasso Science Institute

## Tuesday 18th June

**10:15 - 11:10** **Plenary Talk** (Room F)
*Bootstrap percolation and kinetically constrained particle systems: critical time scales*
**Fabio Martinelli**, University of Roma Tre
Chair: P. Dai Pra, University of Padova

11:10 – 11:45 Coffee break

Session S18F2 *Backward stochastic differential equations and their applications* (Room F)
Organizers/Chairs: K. Colaneri, University of Leeds
E. Issoglio, University of Leeds

11:45 – 12:10 *BSDEs driven by possibly non quasi-left-continuous random measures and optimal control of PDMPs*
E. Bandini, University of Milano Bicocca
12:10 – 12:35 *Optimal switching problems with an infinite set of modes: an approach by randomization and constrained backward SDEs*
M. Fuhrman, University of Milano
12:35 – 13:00 *A Feynman-Kac result via Markov BSDEs with generalized drivers*
E. Issoglio, University of Leeds

Session S18E2 *Analysis in Wiener spaces 1* (Room E)
Organizer/Chair: S. Bonaccorsi, University of Trento

11:45 – 12:10 *Integration by parts formulae on open convex sets in Wiener spaces*
G. Menegatti, University of Ferrara
12:10 – 12:35 *Equivalent characterizations of BV functions on domains of Wiener spaces*
M. Miranda Jr, University of Ferrara
12:35 – 13:00 *Surface measures and integration by parts formula on levels sets induced by functionals of the Brownian motion in* $R^n$
M. Zanella, LUISS Guido Carli

Session S18D2 *Reliability, stochastic dependence and differential games* (Room D)
Chair: M. Longobardi, University of Napoli Federico II

11:45 – 12:10 *Role of multivariate conditional hazard rates in the analysis of non-transitivity and aggregation/marginalization paradoxes for vectors of non-negative random variables*
F. Spizzichino, Sapienza University
12:10 – 12:35 *ROCOF of higher order for continuous time semi-Markov systems*
G. D'Amico, University of Chieti-Pescara
12:35 – 13:00 *Nonzero-sum stochastic differential games between an impulse controller and a stopper*
D. De Santis, London School of Economics

Session S18C2 *KPZ and new universality* (Room C)
Organizer/Chair: A. Occelli, Bonn University

11:45 – 12:10 *Stationary half-space last passage percolation*
A. Occelli, Bonn University
12:10 – 12:35 *The finite temperature Plancherel measure and process*
D. Betea, Bonn University
12:35 – 13:00 *Hard shocks in (T)ASEP*
P. Nejjar, Institute of Science and Technology, Klosterneuburg

## Tuesday 18th June

13:00 – 14:30 Lunch

Session S18F3 *Methods for stochastic filtering and optimal control of processes with jumps* (Room F)

Organizers/Chairs: E. Bandini, University of Milano Bicocca
A. Calvia, University of Milano Bicocca

14:30 – 14:55 *Stochastic filtering of a pure jump process with jump-diffusion observation and path-dependent local characteristics*
K. Colaneri, University of Leeds

14:55 – 15:20 *Optimal control of stochastic processes with jumps: a backward stochastic differential equations approach*
F. Confortola, Polytechnic University of Milano

15:20 – 15:45 *Optimal reduction of public debt under partial observation of the economic growth*
G. Ferrari, Bielefeld University

Session S18E3 *Analysis in Wiener spaces 2* (Room E)

Organizer/Chair: S. Bonaccorsi, University of Trento

14:30 – 14:55 *Analyticity of nonsymmetric Ornstein-Uhlenbeck semigroup with respect to a weighted Gaussian measure*
D. Addona, University of Milano Bicocca

14:55 – 15:20 *Absolute continuity and Fokker-Planck equation for the law of Wong-Zakai approximations of Ito SDEs*
A. Lanconelli, University of Bologna

15:20 – 15:45 *An infinite dimensional Gaussian random matching problem*
D. Trevisan, University of Pisa

Session S18D3 *Random dynamical systems and related problems* (Room D)

Chair: T. Vargiolu, University of Padova

14:30 – 14:55 *Hilbert modules in probability*
M. Skeide, University of Molise

14:55 – 15:20 *Optimal stopping of the exponential of a Brownian bridge*
A. Milazzo, Imperial College London

15:20 – 15:45 *Optimal installation of solar panels: a two-dimensional singular control problem*
T. Vargiolu, University of Padova

Session S18C3 *Chemical reaction networks* (Room C)

Organizer/Chair: E. Bibbona, Polytechnic University of Torino

14:30 – 14:55 *An introduction to chemical reaction network models*
E. Bibbona, Polytechnic University of Torino

14:55 – 15:20 *Stationary distributions for biochemical reaction networks*
D. Cappelletti, ETH Zurich

15:20 – 15:45 *Large deviations for chemical reaction networks*
A. Agazzi, Duke University, Durham

**Tuesday 18th June**

| | |
|---|---|
| 15:45 – 16:15 | Coffee break |

Session S18F4 *Stochastic models for opinion dynamics* (Room F)
Organizer/Chair: I.G. Minelli, University of L'Aquila

16:15 – 16:40 *Opinion dynamics with Lotka-Volterra type interactions*
M. Aleandri, LUISS Guido Carli
16:40 – 17:05 *Synchronization in interacting stochastic systems with individual and collective reinforcement*
P.-Y. Louis, University of Poitiers
17:05 – 17:30 *Opinion dynamics in random networks evolving via preferential attachment*
I.G. Minelli, University of L'Aquila

Session S18C4 *Spunti didattici e formativi di probabilità e statistica per le scuole secondarie* (Room C)
Organizer/Chair: A. Buonocore, University of Napoli Federico II

16:15 – 16:40 *Il laboratorio di calcolo combinatorio e probabilità nell'ambito del Piano Lauree Scientifiche*
A. Buonocore, University of Napoli Federico II
16:40 – 17:05 *Il laboratorio di statistica per l'Alternanza Scuola-Lavoro e per il Piano Lauree Scientifiche*
A. Di Crescenzo, University of Salerno
17:05 – 17:30 *Approccio soggettivista alla probabilità per la formazione degli insegnanti*
M. Mellone, University of Napoli Federico II

16:15 – 17:30 **Poster Session** (Room E)

| | |
|---|---|
| - G. Albano | *Inferring time non-homogeneous Ornstein Uhlenbeck type stochastic process* |
| - G. Ascione | *On the exit time from open sets of some semi-Markov processes* |
| - F. Buono | *Generalized reversed aging intensity functions* |
| - C. Calì | *Distorted representations and comparison results for inactivity times of systems under double monitoring* |
| - N. Cangiotti | *Notes on the Ogawa integrability and a condition for convergence in the multidimensional case* |
| - D. Conte | *On theta-methods for stochastic Volterra integral equations* |
| - B. Martinucci | *On the elastic telegraph process* |
| - A. Meoli | *Finite velocity random motions with jumps governed by an alternating fractional Poisson process* |
| - L. Paolillo | *Residual varentropy of random lifetimes* |
| - P. Paraggio | *Birth-death and diffusion processes to model the logistic growth: analysis and comparisons* |
| - E. Pirozzi | *On a fractional Ornstein-Uhlenbeck process with stochastic forcing and its applications* |
| - P. Siri | *Minimization of the Kullback-Leibler divergence over a log-normal exponential arc* |
| - S. Spina | *Random denials in rumor spreading models* |
| - F. Torres-Ruiz | *A diffusion process related to a Gompertz curve with multiple inflection points* |
| - F. Travaglino | *Brownian motion governed by the telegraph process in stochastic modeling of the inflation and deflation episodes of Campi Flegrei* |
| - J. van Oostrum | *Wasserstein geometry on Gaussian densities with trace one covariance matrix* |
| - A. Zass | *Existence of Gibbians fields via entropy methods* |

| | |
|---|---|
| **19:30 – 22:30** | ***Networking Event*** |

# Wednesday 19th June

Session S19F1 *Stochastic processes with interaction: random environment and particle systems* (Room F)
Organizer/Chair: L. Andreis, Weierstrass Institute, Berlin

9:00 – 9:25 *Random walk in a non-integrable random scenery time*
A. Bianchi, University of Padova
9:25 – 9:50 *Hydrodynamics and duality in dynamic random environment*
F. Sau, Delft University of Technology
9:50 – 10:15 *Interacting particle systems from a duality point of view*
C. Franceschini, IST - Universidade de Lisboa

Session S19E1 *Stochastic games and their applications: N-player games* (Room E)
Organizers/Chairs: L. Campi, London School of Economics
T. De Angelis, University of Leeds
G. Ferrari, Bielefeld University

9:00 – 9:25 *Market manipulation of a producer: a game-theoretic perspective*
L. Campi, London School of Economics
9:25 – 9:50 *Dynkin games with incomplete and asymmetric information*
T. De Angelis, University of Leeds
9:50 – 10:15 *Nonzero-sum submodular monotone-follower games: Existence and approximation of Nash equilibria*
J. Dianetti, Bielefeld University

Session S19D1 *Probabilistic models in non-equilibrium statistical mechanics and applications* (Room D)
Organizer/Chair: G. Bet, University of Firenze

9:00 – 9:25 *Hitting time asymptotics for hard-core interactions on bipartite graphs*
F. R. Nardi, University of Firenze
9:25 – 9:50 *Queue-based activation protocols for random-access wireless networks with bipartite interference graphs*
M. Sfragara, Leiden University
9:50 – 10:15 *Gaussian mean-field lattice gas*
A. Troiani, University of Padova

Session S19C1 *First-passage times and stochastic Langevin equations* (Room C)
Chair: A. Pascucci, University of Bologna

9:00 – 9:25 *Asymptotic Results for first-passage times of some exponential processes*
C. Macci, University of Roma Tor Vergata
9:25 – 9:50 *Joint distribution of first-passage time and first-passage area of certain Lévy processes*
M. Abundo, University of Roma Tor Vergata
9:50 – 10:15 *On stochastic Langevin and Fokker-Planck equations*
A. Pesce, University of Bologna

**Wednesday 19th June**

**10:15 - 11:10** **Plenary Talk** (Room F)
*A brief personal history of stochastic partial differential equations*
**Lorenzo Zambotti**, Sorbonne Université
Chair: F. Flandoli, Scuola Normale Superiore of Pisa

11:10 - 11:45 Coffee break

Session S19F2 *Phase transition and particle systems* (Room F)
Organizer/Chair: F. Sau, Delft University of Technology

11:45 - 12:10 *Coagulating particles and gelation phase transition: a large-deviation approach*
L. Andreis, Weierstrass Institute, Berlin
12:10 - 12:35 *Emergence of periodic behavior in complex systems*
M. Formentin, University of Padova
12:35 - 13:00 *Sticky Brownian motion as scaling limit of the inclusion process*
C. Giardinà, University of Modena and Reggio Emilia

Session S19E2 *Stochastic games and their applications: mean-field games* (Room E)
Organizers/Chairs: L. Campi, London School of Economics
T. De Angelis, University of Leeds
G. Ferrari, Bielefeld University

11:45 - 12:10 *On the convergence problem in mean field games: a two state model without uniqueness*
A. Cecchin, Université Nice Sophia Antipolis
12:10 - 12:35 *N-player games and mean-field games with smooth dependence on past absorptions*
M. Ghio, Scuola Normale Superiore of Pisa
12:35 - 13:00 *Nonzero-sum stochastic games with impulse controls*
M. Basei, University of California, Berkeley

Session S19D2 *Stochastic models for complex systems: non-Markovian dynamics and limit theorems* (Room D)
Organizer/Chair: B. Toaldo, University of Torino

11:45 - 12:10 *Piecewise linear processes with Poisson-modulated switching times and market models*
N. Ratanov, Universidad del Rosario
12:10 - 12:35 *Delayed and rushed motions*
M. D'Ovidio, Sapienza University, Roma
12:35 - 13:00 *Limit theorems for the non-homogeneous fractional Poisson process*
E. Scalas, University of Sussex

Session S19C2 *Optimal transport methods for empirical processes and Bayesian stability* (Room C)
Organizers/Chairs: E. Mainini, University of Genova
G. Conforti, École Polytechnique, Palaiseau
E. Dolera, University of Pavia

11:45 - 12:10 *Ergodic results for a mean field Schrödinger problem*
G. Conforti, École Polytechnique, Palaiseau
12:10 - 12:35 *Optimal rates of mean Glivenko-Cantelli convergence*
E. Dolera, University of Pavia
12:35 - 13:00 *Lipschitz continuity of probability kernels and applications to Bayesian inference*
E. Mainini, University of Genova

**Wednesday 19th June**

| 13:00 - 14:30 | Lunch |
|---|---|

Session S19F3 *Interacting random walks in statistical mechanics* (Room F)
Organizer/Chair: N. Torri, Université Paris-Est Créteil, Créteil

14:30 – 14:55 *Localization for directed polymers in random (heavy-tail) environment*
Q. Berger, Sorbonne Université, Paris
14:55 - 15:20 *Sub-ballistic random walks among biased random conductances in one dimension: a story of wells and walls*
M. Salvi, Ecole Polytechnique, France
15:20 - 15:45 *'Essential enhancements' for activated random walks*
L. Taggi, Weierstrass Institute, Berlin

Session S19E3 *Advances in stochastic control and optimal stopping with applications* (Room E)
Chair: T. De Angelis, University of Leeds

14:30 - 14:55 *On a class of infinite-dimensional singular stochastic control problems*
S. Federico, University of Siena
14:55 - 15:20 *Tail optimality and preferences consistency for stochastic optimal control problems*
E. Vigna, University of Torino
15:20 - 15:45 *Analytical valuation of surrender options in life insurance contracts with minimum guaranteed*
G. Stabile, Sapienza University, Roma

Session S19D3 *Probability and non-local operators: anomalous diffusive dynamics* (Room D)
Organizer/Chair: F. Polito, University of Torino

14:30 - 14:55 *Probabilistic representations of the Barenblatt-type solutions, diffusion equations and fractional operators*
A. De Gregorio, Sapienza University, Roma
14:55 - 15:20 *Fractional derivatives of a function with respect to another function: applications to Dodson and relativistic diffusions*
R. Garra, Sapienza University, Roma
15:20 - 15:45 *Tempered fractional derivatives and related drifted Brownian motions*
F. Iafrate, Sapienza University, Roma

Session S19C3 *Theoretical aspects of probability and applications* (Room C)
Chair: C. Sempi, University of Salento

14:30 - 14:55 *Logical operations among conditional events: theoretical aspects and applications*
G. Sanfilippo, University of Palermo
14:55 - 15:20 *Coherent upper conditional expectation defined by Hausdorff outer measure*
S. Doria, University of Chieti-Pescara
15:20 - 15:45 *How to interpret probability using a purely mathematical approach*
P. Rocchi, IBM and LUISS Guido Carli

**Wednesday 19th June**

| | |
|---|---|
| 15:45 - 16:15 | Coffee break |

Session S19F4 *Stochastic systems with interaction* (Room F)

Organizers/Chairs: C. Orrieri, University of Trento
L. Scarpa, University of Vienna

16:15 - 16:40 *McKean-Vlasov stochastic control and Hamilton-Jacobi-Bellman equations on Wasserstein space*
A. Cosso, University of Bologna
16:40 - 17:05 *The convergence problem for finite state mean field games*
G. Pelino, University of Padova
17:05 - 17:30 *A mean-field model with discontinuous coefficients and spatial interaction*
G. Zanco, LUISS Guido Carli

Session S19E4 *Quantum probability and applications* (Room E)

Organizer: Y.G. Lu, University of Bari, Italy
Chair: E. Sasso, University of Genova, Italy

16:15 - 16:40 *Dephasing, decoherence and classical stochastic processes arising in quantum theory*
F. Fagnola, Polytechnic University of Milano
16:40 - 17:05 *Uniquely ergodic C*-dynamical systems for the noncommutative 2-torus and uniform convergence of Cesaro averages*
F. Fidaleo, University of Roma Tor Vergata
17:05 - 17:30 *The role of the atomic decoherence-free subalgebra in the study of Quantum Markov Semigroups*
V. Umanità, University of Genova

Session S19D4 *Probability and non-local operators: non-Markovian and time-changed processes* (Room D)

Organizer/Chair: L. Beghin, Sapienza University, Roma

16:15 - 16:40 *Subordinated fractional Poisson processes*
A. Maheshwari, Indian Institute of Management Indore
16:40 - 17:05 *From linear superposition of Langevin-driven Brownian particles to the fractional Brownian motion*
G. Pagnini, Basque Center for Applied Mathematics
17:05 - 17:30 *On discrete-time semi-Markov processes*
C. Ricciuti, Sapienza University, Roma

Session S19C4 *Enlargement of filtrations and financial applications* (Room C)

Organizers/Chairs: B. D'Auria, Madrid University Carlos III
C. Fontana, University of Padova

16:15 - 16:40 *Progressive enlargement of filtrations by the reference filtration of a general semi-martingale: results and applications*
B. Torti, University of Roma Tor Vergata
16:40 - 17:05 *Risk measures and progressive enlargement of filtrations: a BSDE approach*
A. Calvia, University of Milano Bicocca
17:05 - 17:30 *Optimal liquidation time of a stock in presence of insider information*
B. D'Auria, Madrid University Carlos III

| | | |
|---|---|---|
| 18:00 - 18:45 | Meeting "Towards the future" | (Room F) |

# <u>Thursday 20th June</u>

Session S20F1 *Advances in stochastic analysis* (Room F)
Chair: E.Priola, University of Pavia

9:00 - 9:25 *On the two-dimensional KPZ and Stochastic Heat Equation*
F. Caravenna, University of Milano Bicocca
9:25 - 9:50 *Quasi-tensor algebra and rough path theory*
C. Bellingeri, Sorbonne Université, Paris
9:50 - 10:15 *On the Onsager-Machlup functional for Brownian motion on the Heisenberg group*
M. Carfagnini, University of Connecticut, United States

Session S20E1 *Approximate Bayesian Computation (ABC)* (Room E)
Organizer/Chair: M. Tamborrino, Johannes Kepler University, Linz

9:00 - 9:25 *Spectral density-based and measure-preserving ABC for partially observed diffusion processes*
M. Tamborrino, Johannes Kepler University, Linz
9:25 - 9:50 *Approximate Bayesian conditional copula*
C. Grazian, University of Chieti-Pescara
9:50 - 10:15 *Variance reduction for fast ABC using resampling*
U. Picchini, Chalmers University of Technology and the University of Gothenburg

Session S20D1 *Stochastic processes with applications to statistical mechanics* (Room D)
Organizer/Chair: M. Gianfelice, Calabria University

9:00 - 9:25 *Stochastic Ising model with temperature fast decreasing to zero*
E. De Santis, Sapienza University, Roma
9:25 - 9:50 *Uniform bound of the entanglement for the ground state of the quantum Ising model with large transverse magnetic field*
M. Gianfelice, Calabria University
9:50 - 10:15 *Ornstein-Zernike behaviour for the correlation functions of the ground state of the quantum Ising model with transverse magnetic field*
M. Campanino, University of Bologna

Session S20C1 *Stochastic methods in neuroscience* (Room C)
Organizer/Chair: G. D'Onofrio, University of Torino

9:00 - 9:25 *Examining whether brain types typical of males are typical of women, and vice versa*
I. Meilijson, Tel Aviv University
9:25 - 9:50 *Spatio-temporal spike pattern detection in experimental parallel spike trains using SPADE*
A. Stella, Jülich Research Center, Germany
9:50 - 10:15 *The first-passage time properties of diffusion neuronal models with multiplicative noise*
G. D'Onofrio, University of Torino

**Thursday 20th June**

**10:15 - 11:10** **Plenary Talk** (Room F)
*On regularized estimation for stochastic differential equations*
**Stefano M. Iacus**, University of Milano
Chair: L. Sacerdote, University of Torino

11:10 - 11:45 Coffee break

Session S20F2 *Stochastic differential equations* (Room F)
Chair: F. Caravenna, University of Milano Bicocca

11:45 - 12:10 *On SDEs with additive noise driven by stable processes*
E. Priola, University of Pavia
12:10 - 12:35 *On the Itô-Alekseev-Gröbner formula for stochastic differential equations*
S. Mazzonetto, University of Potsdam
12:35 - 13:00 *Weak well-posedness for some degenerate SDEs driven by stable processes*
L. Marino, University of Évry Val d'Essonne, Évry

Session S20E2 *Diffusions and their first passage times* (Room E)
Organizer/Chair: C. Zucca, University of Torino

11:45 - 12:10 *Exact simulation of the first passage time of diffusions*
S. Herrmann, Institut de Mathématiques de Bourgogne, Dijon
12:10 - 12:35 *A stochastic algorithm based on the approximation of hitting times for the initial-boundary value problem for the heat equation*
M. Deaconu, INRIA Nancy & IECL, France
12:35 - 13:00 *Inverse first passage time for some two-dimensional diffusion processes*
C. Zucca, University of Torino

Session S20D2 *Fractional stochastic models* (Room D)
Organizer/Chair: E. Pirozzi, University of Napoli Federico II

11:45 - 12:10 *Fractional Pearson diffusions and continuous time random walks*
N. Leonenko, Cardiff University, Wales
12:10 - 12:35 *The non local diffusion equation and the aggregation of Brownian motion*
B. Toaldo, University of Torino
12:35 - 13:00 *SPDEs with fractional noise in space: continuity in law with respect to the Hurst index*
L.M. Giordano, University of Milano

Session S20C2 *Stochastic fluid dynamics* (Room C)
Organizer/Chair: M. Zanella, LUISS Guido Carli

11:45 - 12:10 *Mean field limit of interacting filaments for 3D Euler equations*
M. Coghi, Weierstrass Institute, Berlin
12:10 - 12:35 *The Vlasov-Fokker-Planck-Navier-Stokes system as a scaling limit of particles in a fluid*
M. Leocata, University of Lyon
12:35 - 13:00 *Existence of nonnegative vortex sheets for 2D stochastic Euler equations*
M. Maurelli, University of Milano

13:00 - 14:30 Lunch
14:30 - 14:45 Closing