

26th Conference: Quantum Probability and Infinite Dimensional Analysis

Joint with

The mid-term meeting and 4th Plenary Conference of the EC network:

QP-Applications

Levico (Trento), Italy, 20-26 February, 2005

Centro V. Volterra, Università di Roma Tor Vergata

Centro Internazionale per la Ricerca Matematica (CIRM), Istituto Trentino di Cultura

European Union Research Training Network: QP-Applications

International Association for Quantum Probability and Infinite Dimensional Analysis

Monday, Feb. 21

9.00 – 9.05 Welcome address.

Opening

9.05 – 9.40 *K.R. PARTHASARATHY (New Delhi)*: Some open problems in quantum information and estimation

9.40 – 10.10 *Marek BOZEJKO (Wroclaw)*: Free Levy Meixner processes

10.10 – 10.40 Coffee Break

Chair: Takeyuki HIDA (Nagoya)

10.40 – 11.10 *Luis G. GOROSTIZA (Mexico)*: Long-range dependence in fluctuations of particle systems

11.10 – 11.40 *Masanori OHYA (Tokyo)*: Adaptive dynamics in quantum information

11.40 – 12.10 *Renè SCHOTT (Nancy I)*: Dynamic random walks on Heisenberg groups

12.10 – 12.40 *J. Martin LINDSAY (Nottingham)*: Operator Markovian cocycles

12.40 – 13.10 *Pradip Kumar DAS (Kolkata)*: Dynamics of quantum mechanical feedback control systems in interacting Fock space

13.10 – 15.00 Lunch Break

Chair: Luis G. GOROSTIZA (Mexico)

15.00 – 15.30 *Takeyuki HIDA (Nagoya)*: Note on the time operator

15.30 – 16.00 *Franco FAGNOLA (Milano)*: Quantum Markov semigroups

16.00 – 16.30 *Oleg SMOLYANOV (Moscow)*: Heat and Schroedinger equations with Levy Laplacians on some manifolds of trajectories

16.30 – 17.00 Coffee Break

17.00 – 17.30 *Un Cig JI (Cheongju)*: Characterization of symbols of operators on Boson Fock space and its applications

17.30 – 18.00 *Noboru WATANABE (Tokyo)*: Some aspects of quantum mutual entropy and capacity

18.00 – 18.10 Break

18.10 – 18.40 *Alex GOTTLIEB (Vienna)*: Convergence of rescaled affine quantum walks

18.40 – 19.10 *Si SI (Aichi)*: Characterization of Poisson noise

19.10 – 19.40 *Giacomo Mauro D'ARIANO (Pavia)*: Mappings between the convex structures of states, POVM's and channels, and their physical meaning

Tuesday, Feb. 22

Chair: Marek BOZEJKO (Wroclaw)

9.00 – 9.30 *Sergio ALBEVERIO (Bonn)*: Some new developments in infinite dimensional oscillatory integrals and applications

9:30 – 10:00 *Romuald LENCZEWSKI (Wroclaw)*: The hierarchy of m-monotone Gaussian operators

10.00 – 10.30 *Stephen SONTZ (Guanajuato)*: A μ -deformed Segal-Bargmann space and its relation to μ -deformed heat analysis

10.30 – 11.00 Coffee Break

Chair: Denes PETZ (Budapest)

11.00 – 11.30 *Izumi OJIMA (Kyoto)*: Measurement scheme in QFT as micro-macro duality

11.30 – 12.00 *Roberto QUEZADA (Iztapalapa)*: The two-photon absorption and emission process

12.00 – 12.30 *Habib OUERDIANE (Tunis)*: Solutions of the stochastic heat equation of convolution type

12.30 – 13.00 *Kimiaki SAITO (Nagoya)*: A construction of an infinite dimensional stochastic process generated by the Lévy Laplacian

13.00 Lunch Break

14.00 Excursion (for those who are not members of the EC network)

15.00–20:20: The mid-term meeting and 4th Plenary Conference of the QP-EC network

(cf. separate program)

20.00 Dinner

20.45 The mid-term meeting and 4th Plenary Conference of the QP-EC network

Wednesday, Feb. 23

Chair: Sergio ALBEVERIO (Bonn)

9.00 – 9.30 *Michel EMERY (Strasbourg)*: Which multidimensional Azema martingales have the Chaotic Representation Property

9.30 – 10.00 *Alberto BARCHIELLI (Milano)*: Instruments and mutual entropies in quantum information

10.00 – 10.25 Coffee Break

Chair: Heinz–Dietrich DOEBNER (Clausthal)

10.25 – 10.55 *Robin HUDSON (Nottingham)*: The double product integral $\Pi^*(1 + da \otimes dA^\psi - da^\psi \otimes da)$

10.55 – 11.25 *Wilhelm von WALDENFELS (Heidelberg)*: Creation and annihilation operators on locally compact spaces

11.25 – 11.55 *Yun Gang LU (Bari)*: A quantum central limit theorem

12.00 – 13.00 Open Discussion within the network QP–Applications (outsiders are welcome)

13.00 End of the mid-term meeting and 4th Plenary Conference of the QP-EC network

13.00 – 14.00 Lunch Break

**Young researchers (pre– and post–doc) session
(the session ends on Thursday 24 at 17.30 pm)**

Chair: Michael SCHÜRMAN (Greifswald)

14.00 – 14.30 *Guillaume ADENIER (Vaxjo)*: On the fair sampling assumption in EPR experiments

14.30 – 15.00 *Wided AYED (Tunis)*: White noise flows

15.00 – 15.30 *Abdessatar BARHOUMI (Nabeul)*: A quantum approach to Laplace operators

15.30 – 16.00 *Alexander BELTON (Lyon 1)*: Self-adjoint quantum semimartingales

16.00 – 16.30 Coffee Break

Chair: Habib OUERDIANE (Tunis)

16.30 – 17.00 *Anis BEN GHORBAL (Roma II)*: Constructive quantum stochastic independence and quantum central limit theorem

17.00– 17.30 *Yana BUTKO (Moscow)*: Functional integrals representing solutions of the Cauchy-Dirichlet problem for evolution equations in a domain of a compact Riemannian manifold

17.30 – 18.00 *Vitonofrio CRISMALE (Bari)*: A central limit theorem based on interacting Fock space

18.00– 18.30 *Veronica UMANITA' (Genova)*: On the decomposition of quantum Markov semigroups

18.30– 19.00 *Alexander NOU (Besancon)*: Asymptotic matricial model and QWEP for q -Araki-Woods algebras

Chair: Renè SCHOTT (Nancy I)

21.00 – 22.00: Baby talk

Malte HENKEL (Nancy I): Introduction to conformal invariance

Thursday, Feb. 24

Chair: Roberto QUEZADA (Iztapalapa)

9.00 – 9.30 *Fernando GOMEZ CUBILLO (Valladolid)*: Dispersion relations in the stochastic limit of quantum theory

9.30 – 10.00 *Marcin ZYGMUNT (Wroclaw)*: Noncommutative C^* -algebras with applications to solid state physics

10.00 – 10.30 *Anna JENCOVA (Bratislava)*: Sufficiency in quantum statistical inference

10.30 – 11.00 Coffee Break

Chair: Burkhard KÜMMERER (Darmstadt)

11.00 – 11.30 *Liudmila JOUKOVSKAYA (Vaxjo)*: Dynamics with infinite number of derivatives for level truncated non-commutative interaction

11.30 – 12.00 *Lukasz WOJAKOWSKI (Wroclaw)*: New associative convolutions arising from the conditionally free convolution (I)

12.00 – 12.30 *Anna KRYSTEK (Wroclaw)*: New associative convolutions arising from the conditionally free convolution (II)

12.30 Conference photo outside in the garden

13.00 – 14.00 Lunch Break

Chair: Masanori OHYA (Tokyo)

14.00–14.30 *Hajime MORIYA (Bures-sur-Yvette)*: On the univalence superselection rule

14.30 – 15.00 *Gavriel SEGRE (Vaxjo)*: Physical complexity of classical and quantum objects and their dynamical evolution from an information-theoretic viewpoint

15.00 – 15.30 *Stoimen STOIMENOV (Nancy I)*: On Lie symmetries of nonlinear Schrodinger equation

15.30 – 16.00 *Adam SKALSKI (Nottingham)*: Completely positive convolution cocycles

16.00 – 16.30 Coffee Break

Chair: Romuald LENCZEWSKI (Wroclaw)

16.30 – 17.00 *Jeremie UNTERBERGER (Nancy)*: The infinite-dimensional Schroedinger algebra and Schroedinger field theory

17.00 – 17.30 *Yaroslav VOLOVICH (Vaxjo)*: Particle scattering and interference in quantum mechanics and in discrete time formalism

End of Young Research Session

Chair: Izumi OJIMA (Kyoto)

17.30 – 18.00 *Paolo GIBILISCO (Roma II)*: Schur–monotonicity of curvature for statistical models: classical and quantum aspects

18.00 – 18.30 *Rolf GOHM (Greifswald)*: Beurling type decompositions of E_0 -semigroups

18.30 – 19.00 *Wojciech MLOTKOWSKI (Wroclaw)*: Some class of polynomial hypergroups

19.00 – 19.30 *Nicolas PRIVAULT (La Rochelle)*: A probabilistic interpretation to the symmetries of a discrete heat equation

Friday, Feb. 25

Chair: Wilhelm von WALDENFELS (Heidelberg)

9.00 – 9.30 *Joachim KUPSCH (Kaiserslautern)*: A theorem on liftings of statistical operators

9.30 – 10.00 *Aurel STAN (Shreveport)*: Moments and commutators of probability measures

10.00 – 10.30 Coffee Break

Chair: Giacomo Mauro D'ARIANO (Pavia)

10.30 – 11.00 *Piotr SNIADY (Wroclaw)*: Asymptotic theory of representations of symmetric groups

11.00 – 11.30 *Andreas BOUKAS (Athens)*: Renormalized powers of white noise

11.30 – 12.00 *Janusz WYSOCZANSKI (Wroclaw)*: Monotonic independence and weakly monotonic Fock space

12.00 – 12.30 *Luigi ACCARDI (Roma II)*: Almost any state of any amplitude Markov chain is recurrent

13.00 – 15.00 Lunch Break

Chair: J. Martin LINDSAY (Nottingham)

15.00 – 15.30 *Andrei KHRENNIKOV (Vaxjo)*: Reconstruction of quantum theory starting with the formula of total probability

15.30 – 16.00 *Stephen WILLS (Cork)*: Dilation of completely positive semigroups

16.00 – 16.30 Coffee Break

Chair: Andrei KHRENNIKOV (Vaxjo)

16.30 – 17.00 *Satoshi IRIYAMA (Tokyo)*: On generalized quantum Turing machine and its application

17.00 – 17.30 *Francesco FIDALEO (Roma II)*: Quantum Markov states and chains on the CAR algebra

17.30 – 18.00 *Matteo GREGORATTI (Milano)*: On dilations of classical Markov chains

18.00 – 18.30 *Olga CHOUSTOVA (Vaxjo)*: Quantum (Bohmian) model for financial market

18.30 – 19.00 *Michael SKEIDE (Campobasso)*: Von Neumann modules

Saturday, Feb. 26

Chair: Joachim KUPSCH (Kaiserslautern)

9.00 – 9.30 *Viacheslav BELAVKIN (Nottingham)*: On quantum stochastic martingales and their representation

9.30 – 10.00 *Staszek GOLDSTEIN (Lodz)*: Compactness properties of multiplication operators between noncommutative L^p -spaces

10.00 – 10.30 *Adam MAJEWSKI (Gdansk)*: Positive maps, states and entanglement

10.30 – 11.00 Coffee break

Chair: Oleg SMOLYANOV (Moscow)

11.00 – 11.30 *Carlo CECCHINI (Udine)*: Independence and Markovianity on von Neumann algebras

11.30 – 12.00 *Marcin MARCINIAK (Gdansk)*: Decomposability of positive maps on low dimensional algebras

Closing

12.00 – 13.00 Lunch Break

13.00 Bus departure