

Quantum Probability and Its Applications 26. - 31. March 2006

Programme

All lectures will be held in the Alfried Krupp Wissenschaftskolleg, Martin-Luther-Straße, corner Domstraße

Sunday, March 26

18:30 Sunday evening arrival
Reception at the VCH hotel

Monday, March 27

09:00-09:05 Welcome address of the Scientific Director of the Alfried Krupp Wissenschaftskolleg Greifswald

09:05-09:10 Michael Schürmann (Greifswald)
Opening

09:10-09:50 Luigi Accardi (Rome)
Renormalized powers of quantum white noise and string theories

09:50-10:30 Andrei Khrennikov (Växjö)
Quantum mechanics as an asymptotic statistical projection of classical mechanics with infinite dimensional phase space

10:30-11:00 Coffee break

11:00-11:40 Guillaume Adenier (Växjö)
Anomalies in statistical data on the EPR-Bell experiment: unfair sampling?

11:40-12:20 Anis Ben Ghorbal (Milano)
Quantum stochastic differential equations and second quantization

12:20-13:00 Alexander Belton (Cork)
An Azéma-type martingale related to the Poisson process

13:00-15:00 Lunch Break

15:00-15:40 Franco Fagnola (Milano)
Generic quantum Markov semigroups

15:40-16:10 Coffee Break

16:10-16:50 Habib Ouerdiane (Tunis)
Probabilistic representation of heat equation of convolution type

16:50-17:15 Marcin Marciniak (Gdansk)
Examples of non-decomposable positive maps on C^* -algebras

17:15-17:40 Rafal Salapata (Wroclaw)
Spectral properties of the free product of graphs - examples

17:40-18:05 Artur Buchholz (Wroclaw)
New non-commutative gaussian random variables

18:05-18:30 Anita Dabrowska (Nottingham)
Continuous observation of squeezed coherent state

19:00 Dinner

20:00 European Network QP-Applications
Meeting of the team coordinators

Tuesday, March 28

09:00-09:40 Michel Émery (Strasbourg)
Chaotic Representation Property for some Azéma martingales

09:40-10:20 Nicolas Privault (La Rochelle)
Quantum stochastic calculus applied to path spaces over Lie groups

10:20-10:50 Coffee break

10:50-11:30 Carlos Viviescas (Dresden)
Unraveling entanglement

11:30-12:10 Josef Pitrik (Budapest)
Notes on the equality in SSA of entropy on CAR algebras

12:10-12:50 Thomas Baier (Budapest)
Comparison of some methods of quantum state estimation

13:00-15:00 Lunch Break

15:00-15:40 Attila Andai (Budapest)
On the curvature of the quantum state space with pull-back metrics

15:40-16:10 Coffee Break

16:10-16:50 Mihai Popa (Wroclaw)
Combinatorial Hopf Algebras and non-commutative polynomials

16:50-17:30 Wolfgang Freudenberg (Cottbus)
Quantum model of the recognition process – mathematical prerequisites

17:30-18:10 Karl-Heinz Fichtner (Jena)
Activity of the brain – a quantum model

18:10-18:50 Debashish Goswami (Kolkata)
Heat semigroups arising in non-commutative geometry and their dilation

19:00 Dinner

Wednesday, March 29

09:00-09:40 Shao-Ming Fei (Bonn)
On measure of quantum entanglement

09:40-10:20 V. P. Belavkin (Nottingham)
Entangling flows and the duality of temperature to algebras

10:20-10:50 Coffee break

10:50-11:30 Burkhard Kümmeler (Darmstadt)
Asymptotic behaviour of quantum Markov processes

12:00 Excursion

Enjoy a tour to the Baltic Sea island of **Vilm**. It is located in the bay south of the much larger island of Rügen, one of Germany's most remote and tranquil spots. Vilm is the remnant of a moraine left as the glaciers retreated about 6000 years ago. Already before the second world war the fauna and flora of the island were placed under protection to preserve its ancient oak and beach woodlands. In 1959 the

Council of Ministers of the GDR closed the island to the public. From then until the dissolution of the GDR they used it as a private retreat for higher functionaries, including the GDR heads of state Walter Ulbricht and Erich Honecker. In 1990 the government designed the island and surrounding seas as a landscape protection area of central importance with the designation "Southeast-Southwest-Rügen Biosphere Reserve".

Thursday, March 30

09:00-09:40 Martin Lindsay (Lancaster)
Operator Markovian cocycles

09:40-10:20 Marek Bozejko (Wroclaw)
Spin factors, generalized brownian motions and BMV-conjecture

10:20-10:50 Coffee break

10:50-11:30 Adam Skalski (Lancaster)
Ergodic properties of convolution operators on compact quantum groups

11:30-12:10 Piotr Sniady (Wroclaw)
Asyptotics of representations of Lie groups and quantum probability

12:10-12:50 Anna Krystek (Wroclaw)
Levy-Khintchine formula for conditionally free probability

12:50-15:00 Lunch Break

15:00-15:40 Lukasz Wojakowski (Wroclaw)
Bargmann measures for t-deformed probability measures

15:40-16:10 Coffee Break

16:10-16:50 Rolf Gohm (Reading)
Extentions of Stochastic Matrices

16:50-17:30 Uwe Franz (Besançon)
On infinite divisibility for the monotone convolutions

17:30-18:10 Nicholas Weatherall (Nottingham)
Quantum Stochastic Calculus for a (squeezed) temperature state

18:10-18:50 Janusz Wysoczanski (Wroclaw)
Central Limit Theorems for symmetric cones, associated with monotonic independence

19:00 Reception at the Alfried Krupp Wissenschaftskolleg

Friday, March 31

09:00-09:40 Vito Crismale (Bari)
Projective factorization and quantum central limit theorems

09:40-10:20 Volkmar Liebscher (Greifswald)
Diagonal versions and (quantum) stochastic integrals

10:20-10:50 Coffee break

10:50-11:30 Lee Gregory (Nottingham)
Covariant quantum Levy fields and their representations

11:30-12:10 Wladyslaw Adam Majewski (Gdansk)

On the structure of positive maps

12:10-12:50 Wilhelm von Waldenfels (Heidelberg)
Creation and annihilation operators on locally compact spaces

12:50-15:00 Lunch Break

15:00-15:40 Michael Skeide (Campobasso)
Dilations of product systems

15:40-16:10 Coffee Break

16:10-16:50 Santanu Dey (Greifswald)
Characteristic functions for ergodic tuples