

PREFACE

The 28th Conference on Quantum Probability and Related Topics was held September 2-8, 2007, in the city of Guanajuato, Mexico. This was the first time this important international event took place in the Americas. So all of us in Mexico who were involved in the local organization are gratified to have been able to welcome our academic guests, many of them visiting Mexico for their first time, to the truly marvelous colonial era city of Guanajuato, which has been recognized by UNESCO since 1988 as a World Heritage Site. We were also fortunate to host this conference in the Centro de Investigación en Matemáticas (CIMAT), a national research facility devoted to the advancement of mathematics. The participants were able to enjoy CIMAT's user friendly architecture and ambience that are so conducive to those ever important after talk chats over a cup of coffee. And with a spectacular panoramic view down on the town and its surroundings from CIMAT's perch on the side of a hill thrown in to boot!

The success of a meeting of this size (with 91 participants) is the result of the combined efforts of many people. In particular, special thanks go to the members of the international organizing committee as well as to the staff and support personnel of the local institutions.

After such a successful meeting we hope to see continued valuable academic contacts between the participants from so many countries (Australia, Austria, Belgium, Canada, Chile, France, Germany, Hungary, India, Italy, Japan, Poland, Russia, Slovakia, Spain, Tunisia, United Kingdom and the United States) and those from Mexico.

The conference itself was divided into eleven special sessions, each one with its own organizers. However, we were fortunate in not having to schedule parallel sessions, so the participants were never forced to choose between two talks at the same time. The topics of these special sessions were:

- (1) Interacting Fock Space and Orthogonal Polynomials
- (2) Log-Sobolev Inequalities
- (3) Infinitely Divisible Processes
- (4) White Noise

- (5) Free Probability
- (6) Quantum Statistics and Stochastic Control
- (7) Classical and Quantum Models in Biology
- (8) Dilations
- (9) Applications of Quantum Probability in Physics
- (10) Quantum Markov Semigroups
- (11) Quantum Information

The twenty-two articles in these Proceedings of the 28th Conference on Quantum Probability and Related Topics were accepted for publication only upon successfully gaining approval after a careful reading by anonymous peer reviewers. These articles reflect the scope of the topics presented in the talks of the eleven special sessions in a variety of areas: Quantum Markov Semigroups, Quantum Measurements, White Noise Analysis, Random Walks, von Neumann Algebras, Orthogonal Polynomials, Free Convolution Semigroups, Quantum Controls, Quantum Information, Stochastic Analysis, Schrödinger Equations, Deformed Quantum Mechanics, Protein Folding and Binding, and Quantum Models of Brain Activity.

Finally, we would like to thank these Mexican institutions for their generous financial support:

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We hope the readers of these Proceedings find these articles to be interesting and beneficial to them in their own scientific research activities, whether in mathematics or in applied areas.

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