NONCOMMUTATIVE HARMONIC ANALYSIS
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PREFACE

The *13th Workshop on Noncommutative Harmonic Analysis with Applications to Probability* held in Będlewo, Poland, 11–17.7.2010, was an event in a yearly series of conferences that evolved from small meetings of researchers from Wrocław, Poland, and from a few centers in Germany and Japan.

This time, over 80 mathematicians and physical mathematicians from all over the world, leading scientists as well as students, participated in the Workshop, presenting lectures related to the following main topics:

1. Free probability, random matrices and relations to other deformed models of probability;
2. Quantum groups and connections with models of quantum probability;
3. Quantum white noise and infinite-dimensional analysis;
4. Noncommutative harmonic analysis with applications to noncommutative probability;
5. Quantum information and quantum entropy;
6. Quantum dynamical semigroups and Lévy processes;
7. Positive definite functions on groups;
8. Classical and noncommutative Markov processes;
9. Asymptotic spectral analysis of graphs;
10. Asymptotic representation theory.

Twenty two papers on subjects related to lectures and communications delivered during the conference have been accepted for publication in this volume. The editors are grateful to the referees who generously agreed to assess all the submissions.

The Stefan Banach International Mathematical Center was the main organizer of the Workshop. The Workshop was also sponsored by the Mathematical Institute of the University of Wrocław, by the Rector of the University of Wrocław and by the Institute of Mathematics and Computer Science of the Wrocław University of Technology. Part of the conference expenses were covered by a grant from the Ministry of Science and Higher Education. We would like to thank the Scientific Committee for the preparation of the scientific content of the Workshop.

Special thanks go to all the speakers of the Workshop. In particular, we appreciate the special invited introductory lectures given by Joachim Cuntz, *Purely infinite C^*-algebra*, and by Ken Dykema, *On approximation of groups by permutations and operators by matrices.*

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