Banach Algebras and Their Applications

Sixteenth International Conference on Banach Algebras
University of Alberta in Edmonton, Canada
July 27–August 9, 2003

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Volker Runde
Editors
To Bill and Phil, who started it all.
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Preface

In 1974, Bill Bade of Berkeley and Phil Curtis of Los Angeles organized a meeting at UCLA entitled *Homomorphisms and derivations from Banach algebras*. It was attended by 21 people, none of whom probably realized that they were participants of the first meeting in what would later become known as the Banach algebras conference series.

By the early 1990s, a fairly consistent pattern had been established for conferences in that series: they were held in summer, every other year, lasting for two weeks, and changing sides of the Atlantic ocean with each conference. In late 2000, we volunteered to organize the 16th International Conference on Banach Algebras — entitled *Banach Algebras and their Applications* — in the summer of 2003 at the University of Alberta in Edmonton.

The conference took place from July 27 to August 9, 2003, and was a success by any standard. With almost 140 participants from all continents (except Antarctica), it was the largest and geographically most diverse Banach algebras conference ever. It was also a mathematically very diverse conference. What makes the structure of a Banach algebra so fascinating is that it is almost ubiquitous. Hence, Banach algebra theory interacts naturally and fruitfully with many other branches of functional analysis. This was reflected by the talks given at the conference: topics ranged from K-theory, over abstract harmonic analysis, to operator theory.

The mathematical diversity of the meeting was also reflected by five workshops, each of which occupied two afternoons and was chaired by an internationally recognized specialist in the respective area, on specialized topics and their connections with Banach algebras:

1. K-theory for Banach and locally convex algebras (Chair: Joachim Cuntz, Münster),
2. Banach algebras and operator spaces (Chair: Zhong-Jin Ruan, Urbana-Champaign),
3. Banach algebras in harmonic analysis (Chair: Anthony To-Ming Lau, Edmonton),
4. Banach algebras in operator theory (Chair: Michael M. Neumann, Starkville),
5. Topological homology (Chair: Alexander Ya. Helemskiî, Moscow).

The workshop on abstract harmonic analysis was held in the honor of Eberhard Kaniuth of Paderborn who retired in 2003.

Three of the previous Banach algebras conferences — Long Beach (1981), Canberra (1989), and Blaubeuren (1997) — generated volumes of conference proceedings. Since six years had passed since the Blaubeuren conference and in view of the progress that had been achieved mathematically since 1997, we decided to edit...
conference proceedings for the 2003 meeting. The present volume is the ultimate result of this decision: a collection of 25 refereed research papers and high level expository articles which give a panorama of Banach algebra theory and its manifold applications, as presented at the conference.

The conference — and thus the proceedings — would not have been possible without generous financial support. Partial support was provided by the Dean of Science, the Research Grants Office, and the Office of the Vice-President (Research) of the University of Alberta. Furthermore, Nicole Tomczak-Jagermann of Edmonton and Thomas J. Ransford of Québec City helped us through their Canada Research Chair grants. We are especially indebted to the Pacific Institute for the Mathematical Sciences (PIMS): they were our principal sponsor and also made Alexander Helemskii’s participation possible by granting him a PIMS Distinguished Chair. Furthermore, without the excellent administrative support provided by the local PIMS office, i.e. by the amazing Shirley Mitchell, the organization would have sunk into disarray long before the actual meeting.

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Edmonton, July 9, 2004

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Topics in the book range from $K$-theory to abstract harmonic analysis to operator theory. It is suitable for graduate students and researchers interested in Banach algebras.