Selected papers

The Second Najman Conference on Spectral problems for Operators and Matrices

Dubrovnik, May 10–17, 2009

Special editors

Paul Binding, Aad Dijksma
Krešimir Veselić, Juergen Voigt

Preface

The Second Najman Conference on Spectral problems for Operators and Matrices was held during the week of May 10–17 2009 in Dubrovnik. The purpose of the conference was to commemorate the life and work of Branko Najman, by bringing together leading researchers who contribute to analysis and operator theory — the field of research where Professor Najman was most active — for a week of scientific exchange.

The conference venue was the Center for Advanced Academic Studies (CAAS) of the University of Zagreb, situated in the palace of the old teacher's college located just outside the old walled city. The conference reserved all of the accommodation rooms on the top floor, as well as an office and lecture room, so for one week this part of the CAAS palace was a backdrop for discussions and exchange of ideas among participants.

The conference was attended by over 40 participants from 19 countries and 5 continents. A significant number of participants knew Professor Najman personally, but a new generation of operator analysts was also strongly represented. In addition, the conference opening as well as some social events were attended by Professor Najman's widow and son (who is also a research mathematician in computational number theory).

The themes of the lectures ranged over various topics involving Operators and Matrices, for example: differential operators of Klein-Gordon and Sturm-Liouville type; normal and self-adjoint operators; direct and inverse spectral questions; semigroups; Jacobi, Hankel and Toeplitz matrices; analytic matrix functions (e.g., matrix polynomials); and hierarchical matrices. Common themes included indefinite inner product spaces and numerical analysis.

The center of the work day was a joint lunch at the nearby Sesame Inn. This was not only a pleasant social activity, but was also intended as an opportunity for young researchers to meet their senior colleagues informally and potentially foster future collaborations. The social programme also included a guided tour of the walled city and the conference excursion and dinner.

The bus excursion went to the Prevlaka peninsula, the southernmost point of Croatia, finishing with a visit to the beach and a swim in the Bay of Kotor, Europe's southernmost fjord. The conference dinner was held in Kaulić Inn, in the reconstructed railway station on the old narrow gauge Dubrovnik to Sarajevo railway, with the former rail embankment offering an excellent view of the southern Adriatic.

The conference ended with a farewell reception at the Sesame Inn where Professor Hari announced that the third Najman conference is planned to be held on the same premises in 2012.

The Local Organizing Committee (based mainly in Zagreb) consisted of L. Grubišić, V. Hari, I. Nakić and K. Veselić. The Scientific Committee (whose duties included Guest Editorship of these Proceedings) consisted of P. Binding (Calgary), A. Dijksma (Groningen), J. Voigt (Dresden) and K. Veselić (Hagen).

Branko Najman, 1949–1996

Professor Branko Najman passed away suddenly on August 1996 while spending the summer vacations with his family on the Island of Korčula. His death came as a great and painful surprise to both his friends and colleagues. Professor Najman was born in Zagreb where he completed all stages of his academic education. The main contribution of Ph.D. thesis, which he wrote under the supervision of Professor K. Veselić, was the theory of the Klein -Gordon equation with deep potentials. In this work he pioneered the use of scaled spaces in the study of this equation. He made the usual steps in the university career at the University of Zagreb where he became a professor of mathematics in 1988. His contribution to the study of eigenvalues and nonrelativistic limits of the Klein–Gordon and Dirac equations were rewarded with the Ruđer Bošković Award in 1992. His other important results include: variational principles for Krein space operators, novel use of Newton diagrams in the analytic perturbation theory for matrices, singular perturbation theory for differential operators, a study of some nonlinear operator problems. His modesty was deep and sincere and in perfect harmony with his professional brilliance.