

PREFACE

This volume of *Demonstratio Mathematica*, and the next one, contain the proceedings of the:

AAA80 Workshop on General Algebra
in connection with the
Workshop on Non-classical Algebraic Structures.

The conference was held at the Mathematical Research and Conference Center (a part of the Stefan Banach International Mathematical Center) in Będlewo near Poznań, Poland, from June 1 to June 6, 2010, in the Stefan Banach conference series, and was organized by the Algebra Group at the Warsaw University of Technology, in conjunction with Potsdam University. Support was provided by the Stefan Banach International Mathematical Center, Warsaw University of Technology, and Potsdam University.

The main topics of the conference were related to the traditional areas of the AAA (Arbeitstagung Allgemeine Algebra) conferences, but with special emphasis on the following:

1. Non-classical algebraic structures — e.g. entropic algebras and, in particular, modes (idempotent and entropic algebras), quasigroups and related structures, semirings, and semimodules.
2. Universal algebra and lattice theory — duality and representation theory for algebraic structures, lattices of (quasi)varieties, finite axiomatizability problems, clone theory, complexity, and other algorithmic issues.
3. Applications of algebra in logic, combinatorics and computer science — especially applications of universal algebra in (fuzzy and non-classical) logics, graph theory, automata, design and coding theories, and the algebraic theory of coalgebras.
4. Classical algebraic structures — semigroups, groups, rings, and ordered algebraic structures, especially in connection with universal algebraic methods.

The primary aim of the conference was to review the most recent research results and trends in the above areas, and to promote discussions and interactions between researchers. It was designed to bring together researchers working in the above areas, in order to foster collaboration and future research.

A secondary goal was to attract the interest of graduate students and younger researchers, providing them with interesting and significant problems to work on.

The conference consisted of longer keynote plenary lectures, a number of shorter plenary lectures, and of more than forty 20-minute contributed talks. The invited longer plenary lectures were given by: Joel Berman (Chicago, Illinois), Igor Dolinka (Novi Sad), Ales Drapal (Prague), Heinz-Peter Gumm (Marburg), Paweł Idziak (Kraków), Achim Jung (Birmingham), Andrzej Kisielewicz (Wrocław), Jimmie Lawson (Baton Rouge, Louisiana), Franco Montagna (Siena), Gabor Nagy (Szeged), Jonathan D. H. Smith (Ames, Iowa), Yde Venema (Amsterdam), shorter plenary lectures by: Janusz Czelakowski (Opole), Marcin Kozik (Kraków), Anna Romanowska (Warszawa), Marina Semenova (Novosibirsk) and Rudolf Wille (Darmstadt). The list of participants included 70 people from 18 different countries.

The Organizing Committee consisted of T. Brengos, K. Denecke, B. Jabłonski, A. Pilitowska, A. Romanowska, M. Stronkowski and A. Zamojska-Dzienio; the Scientific Committee consisted of R. Poeschel, A. Romanowska, and J. D. H. Smith.

A. Romanowska