

PREFACE

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The present thematic issue of the *Novi Sad Journal of Mathematics* is in fact a proceedings volume for the third edition of our series, *Novi Sad Algebraic Conference (NSAC)*, which was held in Novi Sad, Serbia, on August 17–21, 2009. By all parameters, this was the largest event in the series so far: it was attended by 110 participants from over 25 countries from Europe, North America, Asia and Australia. The list of invited speakers comprised 16 leading experts in various fields of modern algebra and related research areas. In addition, no less than 62 short contributed talks were delivered in the course of five days.

The NSAC conference series has its origins in a series of meetings of researchers in the fields of algebra and mathematical logic from the old Yugoslavia that took place in the eighties. These meetings were jointly organized by mathematical departments of universities of Belgrade, Skopje and Novi Sad. At first, they were plainly called “Algebraic Conference”, while from the fourth edition onwards the name “Algebra and Logic” (*Algebra i logika*, AiL) was established. In total, there were 8 such conferences; the first seven of them were held in: Skopje (1980), Novi Sad (1981), Belgrade (1982), Zagreb (1984), Cetinje (1986), Sarajevo (1987) and Maribor (1989).

Sadly, the break-up of Yugoslavia and the tragic historical events that followed broke this nice tradition for a number of years. We in Novi Sad tried to revive the “AiL” conference series by organizing its 8th edition in September 1998. Although the meeting attracted a significant number of colleagues from Bosnia and Herzegovina, Macedonia, Montenegro and Serbia, it was truly international in spirit. More than a half of speakers came from outside the ex-Yugoslavia: we had participants from Great Britain, Hungary, Poland, Romania, Russia, U.S.A., etc.

For this reason, we decided it is the right time to start a new international conference series with a new name, NSAC, which would be permanently located in Novi Sad or its proximity. The first two NSAC conferences were organized in August 2003 and July 2005, respectively, both times with around 80 participants from more than 20 countries. Our plan for the future is to organize a NSAC every four years (i.e. in the year following the Summer Olympics), so that the next meeting is scheduled to take place in the summer months of 2013.

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Over the years, we managed to ‘crystallize’ a (non-exclusive) list of main research topics of NSAC: (1) universal algebra and its applications in computer science, (2) semigroups, groups, their interactions and applications (e.g. in combinatorics, logic, formal language theory), (3) lattices and other ordered algebraic structures. Such emphasis was reflected both in our choice of invited lectures (the editors of this volume chaired the Program and the Organizing Committee of NSAC 2009, respectively), and also in the topics covered by the nine papers selected for this proceedings volume. Semigroup theory is represented by the notes of Bogdanović et al. (contributing to the general structure theory of semigroups by presenting a generalization of the well-known Lallement lemma) and Lee (which deals with semigroup varieties). Similarly, the volume contains two papers on ordered algebraic structures: a lattice-theoretical one by Skublics, while the contribution of Cvetko-Vah and Pita Costa investigates skew lattices and relates them to rings. Associative rings surface once more as a principal source of examples in the paper of Koppitz and Musunthia, who consider relationships between various types of hypersubstitutions. The note of Lehtonen belongs to clone theory, an active subfield of universal algebra. Radovanović presents a detailed study of certain weighted automata, while the short note of Mašulović et al. concerns homomorphism-homogeneity, a property of discrete structures which attracted a considerable interest in recent years among discrete mathematicians, logicians and algebraists alike. Finally, the work of Kazda does not belong to algebra in the strict sense of the word: it deals with symbolic dynamics stemming from Möbius number systems, so it belongs to the intersection of topology, dynamical systems and real analysis. However, bearing in mind the profound importance of applications of symbolic dynamics in pure algebra (take Burnside-type problems for a prime example), we felt that the paper in question fits quite well in the present volume.

We use this opportunity to thank all the people who made this proceedings volume possible, our contributors and, especially, our referees for their thorough job. Also, we would like to cordially invite the algebraic community to the next, 4th NSAC, presumably in July 2013, hoping for an even better, bigger, more prestigious and a yet more fruitful conference—a widely open forum for exchanging ideas and results, strengthening existing ties and establishing new connections and friendships.