



Editorial

On 10 August 2004, Volker Weispfenning celebrated his 60th birthday. On that occasion, there was a conference held in Passau in April 2005. It was entitled *Algorithmic Algebra and Logic (A3L 2005)*.

The proceedings of A3L 2005 comprise more than 50 excellent short papers. A considerable number of these were combined submissions including also full papers for the present special issue of the Journal of Symbolic Computation. After an extremely rigorous refereeing process, there were finally seven of these full papers accepted for publication here. These accepted papers give a good impression of the unusually broad scope of A3L 2005 reflecting in turn the unusually broad scope of Volker Weispfenning's scientific work.

A3L came up with a specific profile, which makes it unique and a real gain for the symbolic computation community: On the one hand, it placed particular emphasis on work that has resulted in complete implementations. At the same time it was considered essential to demonstrate the practical applicability of these implementations to real problems. On the other hand, A3L focused on common issues of computer algebra and algorithmic logic. This might appear rather restrictive at first glance, but it is not at all: One prototype example for these common issues is real quantifier elimination. The investigation of this by George Collins and others starting in the early 1970s and lasting until today have enormously stimulated algebraic research. In fact, most of algorithmic commutative algebra is related in some way to real quantifier elimination methods and thus to algorithmic logic.

Volker Weispfenning, to whom this special issue is dedicated, is one researcher who has – besides conducting an unusually wide range of research – made considerable contributions to algebraic aspects of algorithmic logic. As there is not much in commutative algebra without a connection to real quantifier elimination, there is not much in computer algebra in general without a connection to Volker's work. We would like to thank the authors, who have understood this, and made explicit this connection in their articles.

We would like to remind the readers that there is actually a strong link between Volker Weispfenning and the Journal of Symbolic Computation. To start with, he has himself published six articles in this journal. Even more important, however, Volker served on the editorial board for 18 years, from the very beginning in 1985 until August 2003. During that time he managed with great competence and dedication more than 200 submissions. This is exemplary service to the scientific community.

Last but not least, we would like to mention the brilliant and efficient work of our program committee: Hirokazu Anai, Eberhard Becker, Christopher Brown, Victor Ganzha,

Vladimir Gerdt, Laureano Gonzalez-Vega, Hoon Hong, David Jeffrey, Wolfgang Küchlin, Scott McCallum, Teo Mora, Alexander Prestel, Eugenio Roanes-Lozano, Dongming Wang, Andreas Weber, Franz Winkler, Martin Ziegler.

Within not much more than one month, they have, besides reviewing more than 50 submissions to the A3L conference proceedings, completely processed all the submissions to this special issue. That is, in addition to three personal A3L short paper reviews, each member of the program committee had to provide at least two referee reports for submissions to the present issue, one of which was written personally. Where the assessments did not agree, ties were broken by means of further reports. At the end, every single positive or negative decision on acceptance for this special issue is based on at least two compatible reports.

Andreas Dolzmann*

Thomas Sturm

Fakultät für Mathematik und Informatik,

Universität Passau,

94030 Passau,

Germany

E-mail addresses: dolzmann@uni-passau.de (A. Dolzmann), sturm@uni-passau.de (T. Sturm).

5 October 2005

Available online 28 September 2006

* Corresponding editor.

During the production of this special issue we have received the sad news that Birgit Reinert has passed away on 29 January 2006 at the age of 41. Her paper in this issue is just part of her contribution to the study of Gröbner bases, and both her old friends and those who first met her at A3L will miss her.