

GRAMMAR SYSTEMS 1994-2004

Toulouse, France, Sunday August 22, 2004

Ten years ago, in 1994, the monograph *Grammar Systems* by E. Csuhaj-Varju, J. Dassow, J. Kelemen, and G. Paun was published (Gordon and Breach, Yverdon). The *theory of grammar systems* (GSs) started during the 80ties – motivated in certain extent by the MFCS '78 conference contribution by G. Rozenberg and R. Meersman – realizing the idea that formal languages may be defined and studied by (finite) collections of cooperating grammars instead of single ones. Therefore grammar systems provide an effective framework for the research of multi-processing, decentralization, cooperation, emergence of collective phenomena, etc., viewed through the optics of the above mentioned new computational paradigm.

The proposed one day workshop is intended as a continuation of the sequence of Grammar Systems Workshops organized up to now in Mangalia, Romania (1995), Budapest, Hungary (1996), Brno, Czech Republic (1998; as a satellite workshop of MFCS'98), in Bad Ischl, Austria (2000).

The aims of the workshop is to create a forum to present the progress during the last ten years of the development in this well motivated branch of the theory of formal grammars and languages. In accordance in the previous workshops it intends to reflect influence the grammar system theory to other disciplines, to reflect the present days state-of-the art of it, to exchange opinions and present new results on grammar system theory and last but not least to sketch and discuss the future of the theory of grammars systems as well as its influences to and connections with other fields of (computer) science.

Participants involved in research in the field of grammar systems as well as those interested in the theoretical and/or applicational side of the grammar systems theory are expected. The expected number of participants ranges about 35.

The preproceedings of the contributions will be published by Silesian University, Opava, and distributed on the workshop during the 8th IFIP World Computer Congress in Toulouse. It is an intention of the organizers to edit a volume for the Kluwer Academic Publisher on the base of the workshop.

Organizers and the Program Committee:

Alica Kelemenova (Chairperson, Opava, Czech Republic)
Erzsebet Csuhaj-Varju (Budapest, Hungary)
Juergen Dassow (Magdeburg, Germany)
Jozef Kelemen (Opava, Czech Republic)
Gheorghe Paun (Bucharest, Romania, and Tarragona, Spain)

The program of the workshop will consist of lectures presenting the progress in grammar systems investigation during the ten years period after the publishing monograph from the point of view of the co-authors of the monograph as well as short communications chosen by the program committee from the actual submissions on the base of quality and relevance.

The workshop on August 22, 2004 is planed to have morning and afternoon sessions. Standard presentation techniques are required.

Brief description of each organizer's background

Alica Kelemenova, professor at the Silesian University at Opava, Czech Republic
Reseach interests: formal language theory (cooperating systems, L-systems, complexity)
Author/co-author of cca 35 research papers
Editor/co-editor of 4 edited volumes

Erzsebet Csuhaj-Varju, senior researcher, Hungarian Academy of Sciences, Budapest
Research interests: formal languages, multi-agent systems, natural computing, natural language processing
Author/co-author of 80 publications and the monograph on grammar systems
Editor/co-editor of 3 edited volumes

Juergen Dassow, professor, Otto-von-Guericke-University of Magdeburg, Germany
Research interest: formal languages (Lindenmayer systems, controlled derivations / regulated rewriting, grammar systems, syntactical complexity, grammatical approaches to pictures, languages and biocomputing)
Author/co-author for 3 monographes and approx. 120 scientific papers
Editor/co-editor of 7 proceedings

Jozef Kelemen professor at the Silesian University at Opava, Czech Republic
Research interests: grammar systems, cognitive sciences artificial intelligence, expert systems
Author/co-author for 11 monographes and various scientific papers
Editor/co-editor of 9 edited volumes

Gheorghe Paun, Corresponding Member of The Romanian Academy, Bucharest, Romania, researcher Tarragona, Spain

Research interests: Formal language theory (and applications), combinatorics on words, DNA computing, membrane computing

Author/co-author for 10 monographs and various scientific papers

Editor/co-editor of 11 edited volumes

All members of the program committee have relevant past experience with workshops. They took a part as chairmen, program committee members, members of steering committee ..., in organization of several workshops, series of conferences (Developments in Language Theory - DLT, Universal Computation - UC, Unconventional Models of Computation - UMC, ECAL, ICALP, DNA Based Computers, FCT, MFCS, etc), congresses and scientific meetings (also together in different combinations). Some relevant workshops for example are

Three International Workshops Grammar Systems (Bad Ischl, Austria, 2000, Satellite Workshop of MFCS'98, Brno, Czech Republic, 1998, Budapest, 1996)

Four Workshops "Descriptive Complexity of Formal Systems" (Budapest, Hungary, 2003, London, Ontario, Canada, 2002, Vienna, Austria, 2001, London, Ontario, Canada, 2000)

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