

Proceedings of the Conference

Workshop on Formal Models

Edited Dusan Kolar and Alexander Meduna

Faculty of Information Technology, Brno University of Technology
Department of Computer Science of FEEI VŠB-Technical University Ostrava
ASU, CSSS, EUROSIM, SCS

1st International Workshop WFM'06
April 25 - 26, 2006
Přerov, Czech Republic



©MARQ., Dušan Kolář and Alexander Meduna, 2006

KOLÁŘ Dušan, MEDUNA Alexander
WFM'06, Proceedings of the 1st Conference “Workshop on Formal Models”, April 25 – 26,
2006, Přerov, Czech Republic, 1st edition – Ostrava – Jan Štefan MARQ., nám. Msgre Šrámka 6
(Print: Repronis, Ostrava, Nádražní ul. 53), p. 96, Figs, (Acta MOSIS No. 106)

ISBN 80-86840-20-4

PROGRAM COMMITTEE

HENRY N. ADORNA, PHILIPPINES
MÁXIME CROCHEMORE, FRANCE
ERZSÉBET CSUHAJ-VARJÚ, HUNGARY
ALICA KELEMENOVÁ, CZECH REPUBLIC
DUŠAN KOLÁŘ, CZECH REPUBLIC — CO-CHAIR
KAMALA KRITHIVASAN, INDIA
MARTIN KUTRIB, GERMANY
HING LEUNG, U.S.A.
ERKKI MÄKINEN, FINLAND
PAVEL MARTINEK, CZECH REPUBLIC
ALEXANDER MEDUNA, CZECH REPUBLIC — CHAIR
BOŘIVOJ MELICHAR, CZECH REPUBLIC
BEATRICE PALANO, ITALY
FRANK PIESSENS, BELGIUM
GIOVANNI PIGHIZZINI, ITALY
PETR ŠALOUN, CZECH REPUBLIC
MENNO VAN ZAAANEN, AUSTRALIA

ORGANIZING COMMITTEE

VLADIMÍR BARTÍK, CZECH REPUBLIC
DUŠAN KOLÁŘ, CZECH REPUBLIC
ZBYNĚK KŘIVKA, CZECH REPUBLIC
JAN ŠTEFAN, CZECH REPUBLIC — CHAIR

CONTENTS

FOREWORD	7
FORMAL MODELS: CONCEPTS	9
<i>Alexander MEDUNA – Zbyněk KŘIVKA, Czech Republic:</i> General Top-Down Parsers Based On Deep Pushdown Expansions	11
<i>Alexander MEDUNA – Roman LUKÁŠ, Czech Republic:</i> Multigenerative Grammar Systems	19
<i>Lucie CIENCIALOVÁ – Luděk CIENCIALA, Czech Republic:</i> Variations on the Theme: P Colonies	27
<i>Miroslav LANGER, Czech Republic:</i> On Generative Power of Positioned Eco-grammar Systems	35
FORMAL MODELS: THEORY	43
<i>Tomáš MASOPUST, Czech Republic:</i> Closure Properties of Linear Languages under Operations of Linear Deletion	45
<i>Zbyněk KŘIVKA – Rudolf SCHÖNECKER, Czech Republic:</i> String-Partitioning Systems and An Infinite Hierarchy	53
<i>Jiří TECHET, Czech Republic:</i> Bidirectional Contextual Grammars	61
FORMAL MODELS: APPLICATIONS	69
<i>Ivana RUDOLFOVÁ – Jaroslav ZENDULKA, Czech Republic:</i> Clustering of Protein Sequences	71
<i>Jaroslav ŠKARVADA – Richard RŮŽIČKA, Czech Republic:</i> Using Petri Nets for RT Level Digital Systems Test Scheduling	79
<i>Gundars ALKSNIS, Latvia:</i> Formal Transformation and Model Transformation Framework for MDA	87
INDEX OF AUTHORS	95
ADVERTISEMENT	96



Miroslav Beneš

Foreword

The 1st International Workshop on Formal Models (WFM '06) was held in Přerov, Czech Republic, from April 25 till April 27, 2006.

This conference provides international dissemination of contributions on information technologies. Its scope covers the theoretical foundations, systems, techniques, applications, implementations of information technologies as well as interaction between components thereof. Its fundamental goal is an improvement of the information technologies by communicating their ideas and principles among computer scientists who deal with them.

The papers of this proceedings are also available on-line as a CEUR Workshop Proceedings (see <http://CEUR-WS.org>).

I would like to thank the members of the Program Committee for reviewing the papers and choosing the best student papers. I also want to thank the members of the Organizing Committee for their assistance in organizing the conference. Special thanks go to Jan Štefan for his excellent preparation of this conference.

Finally, many thanks to those who contributed to the WFM'06 program—the authors, session chairs, and participants.

It has been almost a year since Mirek Beneš, whose influence to this conference was enormous, tragically died. We dedicate this conference to his memory.

Brno, April 2006

Alexander Meduna
Program Committee Chair