Journal of Universal Computer Science, vol. 15, no. 1 (2009), 1-2
submitted: 12/12/08, accepted: 18/12/08, appeared: 1/1/09

Logic, Abstract State Machines and Databases
J.UCS Special Issue

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On the occasion of Egon Börger's visit to New Zealand in October / November 2007 I organised a small workshop in Palmerston North with the intention to bring together researchers in areas of interest of Egon Börger and my own research group. Therefore, the title of the workshop was chosen to be "Logic, Abstract State Machines, and Databases". Though not all invitees were able to attend the workshop, we had two days full of presentations and intensive discussions, and some of the local participants were not even able to present their work. Following the workshop all participants and others who were interested but could not attend were invited to submit articles to a special issue of the Journal of Universal Computer Science.

All submitted articles were carefully reviewed by two referees, and in some cases a second reviewing round for major revisions was needed. I am happy that finally eleven high-quality articles came together for this special issue of the Journal of Universal Computer Science:

Egon Börger, Ove Sörensen, Bernhard Thalheim: *On Defining the Behavior of OR-joins in Business Process Models*

Andrea Calì, Diego Calvanese, Davide Martinenghi: *Dynamic Query Optimization under Access Limitations and Dependencies*

Max Cresswell: *Non-Denumerable Infinitary Modal Logic*

Lindsay Groves: *Reasoning about Nonblocking Concurrency*

Sven Hartmann, Sebastian Link: *Weak Functional Dependencies: Full Propositional Expressiveness for the Database Practitioner*

Markus Kirchberg: *Using Abstract State Machines to Model ARIES-based Transaction Processing*

Henning Köhler: *Global Database Design based on Storage Space and Update Time Minimization*

Scott Uk-Jin Lee, Gillian Dobbie, Jing Sun, Lindsay Groves: *Formal Verification of Semistructured Data Models in PVS*

Hans-J. Lenz, Bernhard Thalheim: *A Formal Framework of Aggregation for the OLAP-OLTP Model*

Attila Sali, Klaus-Dieter Schewe: *A Characterisation of Coincidence Ideals for Complex Values*

Jane Zhao, Klaus-Dieter Schewe, Henning Köhler: *Dynamic Data Warehouse Design with Abstract State Machines*

I am grateful to all workshop participants and authors of journal articles in this issue, who contributed to a fine collection of research stretching from pure logic over database theory and formal methods to rather applied topics such as business processes and data warehouses. I would also like to express my greatest thanks to all twenty reviewers, who put in a lot of time reading the articles and making substantial suggestions for improvement, which at the end led to the high quality. Last but not least, I like to thank Professor Maurer for the opportunity to publish this collection of research articles as a special issue of the Journal of Universal Computer Science, and Ms. Dana Kaiser for her timeless efforts polishing the final versions of all contributions.

Palmerston North, December 2008 Klaus-Dieter Schewe