

Reed-Muller 2007

A workshop on
Applications of the Reed-Muller Expansion in Circuit Design and
Representations and Methodology of Future Computing Technology

May 16, 2007

Oslo, Norway

Preliminary Program

09:00 – 09:10 **Opening Remarks**

Session A

09:10 – 09:35 *Building Free Binary Decision Diagrams Using SAT Solvers*
Robert Wille, Görschwin Fey and Rolf Drechsler

09:35 – 10:00 *Remarks on the Complexity of Arithmetic Representations of Elementary Functions for Circuit Design*
Radomir S. Stanković and Jaakko Astola

10:00 – 10:25 *Most Complex Boolean Functions*
Bernd Steinbach

10:25 – 11:00 **Refreshment Break and Discussion**

Session B

11:00 – 11:25 *Characterization of Some Forms of Symmetry of Boolean Functions in the Reed Muller Spectral Domain*
Claudio Moraga and Radomir S. Stanković

11:25 – 11:50 *On Symmetric Functions with Special Properties*
T. Sasao and J. T. Butler

11:50 – 12:15 *Estimating the Quality of AND-EXOR Optimization Results*
Sebastian Kinder, Görschwin Fey and Rolf Drechsler

12:15 – 13:30 **Lunch** (not included in registration fee)

Session C

13:30 – 13:55 *ESOP Transformation to Majority Gates for Quantum Dot Cellular Automata Logic Synthesis*

David Y. Feinstein and Mitchell A. Thornton

13:55 – 14:20 *Some Remarks on Reversible Logic Synthesis*

Pawel Kerntopf

14:20 – 14:45 *Realization of Incompletely Specified Functions in Minimized Reversible Cascades*

Manjith Kumar, Bala Iyer, Natalie Metzger, Ying Wang and Marek Perkowski

14:45 – 15:10 *Synthesis and Optimization of Reversible Circuits*

Y. Van Rentergem and A. De Vos

15:10 – 15:35 **Refreshment Break and Discussion**

Session D

15:35 – 16:00 *Search for Universal Ternary Quantum Gate Sets with Exact Minimum Costs*

Normen Giesecke, Dong Hwa Kim, Sazzad Hossain and Marek Perkowski

16:00 – 16:25 *Quantum Behaviors: Synthesis and Measurement*

Martin Lukac, Normen Giesecke, Sazzad Hossain, Marek Perkowski and Dong Hwa Kim

16:25 – 16:50 *Quantum Logic Circuit Simulation Based on the QMDD Data Structure*

David Goodman, Mitchell A. Thornton, David Y. Feinstein and D. Michael Miller

Plenary Session

16:50 – 17:15 Planning Future RM Workshops