

Reed-Muller Workshop

May 24 – 25, 2017

Novi Sad, Serbia

PROGRAM

Wednesday, May 24

18:00 -18:25 Registration

18:25 – 18:30 **Opening Remarks** – R. Stanković and D. Michael Miller

18:30 – 19:30 **Invited Address** – *Chair: C. Moraga*
Energy-Efficient Cryptographic Primitives
Elena Dubrova

Workshop Dinner – 20:00 – Čarda Aqua Doria, Kamenicki put bb, Petrovaradin-Novı Sad

Thursday, May 25

08:45 – 10:00 **Session 1** – *Chair: T. Sasao*
Compact XOR-Bi-Decomposition for Generalized Lattices of Boolean Functions
Bernd Steinbach and Christian Posthoff

Enumeration and Coding Methods for a Class of Permutations and Reversible Logic Gates
Costas Karanikas and Nikolaos Atreas

On the Computation of Reed-Muller Spectra for Cryptography and Switching Theory Applications
Mitchell A. Thornton and D. Michael Miller

10:00 – 10:30 **Refreshment Break**

10:30 – 11:45 **Session 2** – *Chair: G. W. Dueck*

Subsets of Boolean Bent Functions in the Spectral Reed-Muller Domain
Miloš Radmanović and Radomir Stanković

Boolean Function Classification with δ -swaps
Mathias Soeken, Ina Kodrasi and Giovanni De Micheli

An Improved Walsh Spectral Classification of Boolean Functions of $n \leq 5$
Milena Stanković, Claudio Moraga and Radomir S. Stanković

11:45 – 13:00 **Lunch**

13:00 – 14:15 **Session 3** – *Chair: S. Nagayama*
Fundamental Symmetric Boolean Functions and Reed-Muller Spectra
Claudio Moraga

BDD and FDD Size Optimization by a Genetic Algorithm
Suzana Stojković, Darko Veličković and Claudio Moraga

Cycle Structures of the Reversible Hidden Weighted Bit Function
Krzysztof Podlaski

14:15 – 14:45 **Refreshment Break**

14:45 – 15:35 *Session 4* – *Chair: M. Soeken*
Optimal Multiple-Control Toffoli Circuits of Reversible Adder-Subtractors and
Reduced Quantum Gate Realization
Md. Belayet Ali, Takashi Hirayama, Katsuhisa Yamanaka and Yasuaki Nishitani

Analytic Sifting Algorithm
Martin Lukac, Pawel Kerntopf and Michitaka Kameyama

15:35 – 15:45 **Break**

15:45 – 16:30 **Plenary Session** – *Reed-Muller –Past, Present and Future – Chair: D. M. Miller*
The session will begin with a brief overview of the contributions described in the following survey papers included in the workshop record:

Early work in Switching Theory and Logic Design of the Gavrilov School in the Former Soviet Union
Anatoly A. Shalyto, Radomir S. Stanković, Jaakko T. Astola and Alexander V. Strukov

A Selected Bibliography on Reed-Muller Representations and Related Topics
Radomir S. Stanković and Dragan Janković

16:30 **Coffee in a nearest coffee shop**