

# May 25, Wednesday - RM 2011 - Afternoon

- 17:00 **Registration of Reed-Muller Workshop**
- 18:00 **Dinner**
- 19:00 **Opening Remarks** [Auditorium]
- 19:10 **Invited talk 1:** (Chair R.S. Stanković)  
**Overview about Low-Level and High-Level Decision Diagrams for Diagnostic Modeling of Digital Systems**  
*R. Ubar, (Tallinn University of Technology, Estonia)* [Auditorium]
- Session 1: Transforms** (Chair T. Sasao)  
[Auditorium]
- 20:00 **Direct Reed-Muller Transform of Digital Logic Netlists**  
*M. A. Thornton, J. Dworak, (Southern Methodist University, USA)*
- 20:25 **Adaptive Hardware Based on the Inverse Walsh Transform**  
*O. Keren, (Bar-Ilan University, Israel)*
- 20:50 **Computing Fast Spectral Transforms on Graphics Processing Units Using OpenCL**  
*D. B. Gajić, R. Stanković, (University of Niš, Serbia)*
- 21:15

# May 26, Thursday - RM 2011 - Morning

- 8:00 **Registration**  
**Session 2: Optimization** (Chair J. Rice)  
[Auditorium]
- 8:30 **Linear Transformations for Variable Reduction**  
*T. Sasao, (Kyushu Institute of Technology, Japan)*
- 8:55 **Rule-Based Optimization of AND-XOR Expressions**  
*D. Knysz, (Taganrog Institute of Technology, Russia), E. Dubrova, (Royal Institute of Technology, Sweden)*
- 9:20 **An Algorithm for Producing Median Formulas for Boolean Functions**  
*M. Couceiro, E. Lehtonen, J.-L. Marichal, (University of Luxembourg),  
T. Waldhauser, (University of Szeged, Hungary)*
- 9:45 **Invited talk 2:** (Chair E. Dubrova)  
**Cryptographic Nonlinearity** [Auditorium]  
*K. Nyberg (Aalto University, and Nokia Research Center, Finland)*
- 10:30 **Coffee break**  
**Session 3: Reversible Logic** (Chair D. Michael Miller)  
[Auditorium]
- 10:50 **Improved ESOP-based Synthesis of Reversible Logic**  
*N. M. Nayeem, J.E. Rice, (University of Lethbridge, Canada)*
- 11:15 **Decomposition of Reversible Logic Function Based on Cube-Reordering**  
*M. Lukac, M. Kameyama, (Tohoku University, Japan) M. Perkowski, (Portland State University, USA) P. Kerntopf  
(Warsaw University of Technology, Poland)*
- 11:40 **Online Testable Ternary Reversible Circuit**  
*M. R. Rahman, J. E. Rice, (University of Lethbridge, Canada)*
- 12:10 **Lunch**

# May 26, Thursday - RM 2011 - Afternoon

## Session 4: Cryptographic Boolean Functions & Decision Diagrams

[Auditorium]

(Chair Mitchell A. Thornton)

### 13:30 Classification and Generation of Bent Functions

*B. Steinbach, (University of Mining and Technology, Germany) Ch. Posthoff, (University of the West Indies Trinidad & Tobago)*

### 13:55 Representation of Resilient Boolean Functions Using Binary Decision Diagrams

*S. Stanković; J. Astola, (Tampere University of Technology, Finland)*

### 14:20 Remarks on Different Decision Diagrams

*R. Stanković, (University of Niš, Serbia), R. Ubar, (Tallinn University of Technology, Estonia), J. Astola, (Tampere University of Technology, Finland)*

### 14:45 Linear Algorithms for Testing Superpositional Graphs

*A. Peder, H. Nestra, (University of Tartu, Estonia), J. Raik, M. Tombak, R. Ubar, (Tallinn University of Technology, Estonia)*

## 15:10 Coffee break

## Session 5: Quantum & Probabilistic (Chair Gerhard Dueck)

[Auditorium]

### 15:30 Mixed Polarity Reed-Muller Expressions for Quantum Computing Circuits

*C. Moraga, (EU Centre for Soft Computing, Spain)*

### 15:55 Reducing Quantum Cost in Reversible Toffoli Circuits

*M. Szyppowski, P. Kerntopf, (University of Technology Warsaw, Poland)*

### 16:20 Probabilistic AND-EXOR Networks

*S. N. Yanushkevich, A. H. Tran, V. P. Shmerko, (University of Calgary, Canada), E. N. Zaitseva, V. Lavashenko, (University of Zilina, Slovakia)*

### 16:45 Planning Future Reed-Muller Workshops

[Auditorium]