

# Reed-Muller 2009

Advance Program

2009/5/23-24

## May 23 (Sat)

**18:00-19:30** Dinner at a Restaurant  
Hotel Palm Royal NAHA: 1F IL FIORE (Italian Food)

**19:40-21:00** Session S (Opening+Special: Chair, T. Sasao)

### Special Talk

A. Yamada, "History of research on switching theory in Japan: On the contributions of Akira Nakashima"  
(This talk is sponsored by IEEE Circuits and Systems Society, Fukuoka Chapter. Any person can attend without paying registration fee.)

**20:10-21:00** Session S (Transform: Chair, J. T. Butler)  
Z. Zilic and K. Radecka, "Enabling practical uses of arithmetic transforms - A comprehensive analysis"  
C. Moraga and R. Stanković, "On a property of spectral transforms"

## May 24 (Sun)

**9:05-10:20** Session 1 (Decision Diagrams: Chair, T. Sasao)  
S. Minato, "Recent results on BDD based large-scale data processing for knowledge discovery"  
B. Alizadeh and M. Fujita, "Modularity in word-level decision diagrams"  
R. Stanković, S. Stanković, and J. Astola, "Remarks on the representation of prototype functions in LP classifications by Walsh decision diagrams"

**10:20-10:40** Break

**10:40-11:55** Session 2 (Reversible logic 1: Chair, G. W. Dueck)  
S. Ghosh, B. Bhattacharya, and S. Sen Sarma, "Reversible synthesis of symmetric functions: A hierarchical approach"  
J. Rice, K. Fazel, K. Kent, and M. Thornton, "Toffoli gate cascade generation using ESOP minimization and QMDD based swapping"  
T. Hirayama, H. Higashiohno, and Y. Nishitani, "Search space reduction for reversible logic synthesis by evaluating lower bounds"

**12:05-13:20** Lunch at a Restaurant  
Hotel Royal Orion: 3F Katabami (Japanese Food)

**13:30-14:45** Session 3 (Reversible logic 2: Chair, C. Moraga)  
R. Wille and R. Dreschler, "Synthesizing reversible logic: An overview"  
M. Miller, G. Dueck, and R. Wille, "Synthesizing reversible circuits from irreversible specifications using Reed-Muller spectral techniques"  
S. Yamashita and I. Markov, "Adaptive equivalence-checking for quantum circuits"

**14:45-15:05** Break

**15:05-16:20** Session 4 (EXOR: Chair, D. M. Miller)  
B. Steinbach and C. Posthoff, "The Boolean differential calculus - Introduction and examples"  
J. T. Butler, G. Dueck, S. Yanushkevich, and V. Shmerko, "On the use of transeunt triangles to synthesize fixed-polarity Reed-Muller expansions of functions"  
J. T. Butler and T. Sasao, "Logic functions for cryptography - A tutorial"

**16:20-16:30** Closing