

7th International Symposium on Representations and Methodology of
Future Computing Technologies

RM2005 (ReedMuller 2005)
Preliminary Technical Program

Monday, 5 September, 2005

0830-1700

Registration

0850-0900

Welcome

0900-1000

Session 1. Invited Talk 1

Title: Current Trends of Quantum Computing

Speaker: Hiroshi IMAI

University of Tokyo

1000-1030

Break

1030-1230

Session 2.

Session Chair: T.B.D.

Title: Improving Template Matching for Minimizing Reversible Toffoli Cascades

Authors: Nathan Scott, Gerhard W. Dueck and Dmitri Maslov

University of New Brunswick, University of Victoria

Title: Quantum Ordered Binary Decision Diagrams with Repeated Tests

Authors: Matthias Homeister and Stephan Waack

Georg-August-Universität Göttingen

Title: Quantum Realization of Ternary Parallel Adder/Subtractor with Look-Ahead Carry

Authors: Mozammel H. A. Khan and Marek A. Perkowski

East West University, Portland State University

Title: Quantum Realization of Ternary Encoder and Decoder

Authors: Mozammel H. A. Khan and Marek A. Perkowski

East West University, Portland State University

1230-1400

Lunch

1400-1530

Session 3.

Session Chair: T.B.D.

Title: Splitting Versus Unfolding

Authors: Mohammad GhasemZadeh and Christoph Meinel

University of Potsdam

Title: Parallelized Implementation of Reachability Analysis Using Partitioned-ROBDDs on PC-cluster

Authors: Yoshihisa Kojima, Kenshu Seto, Satoshi Komatsu and Masahiro Fujita

University of Tokyo

Title: Test Set Generation and Fault Localization Software for Reversible Circuits

Authors: Dean Pierce, Jacob Biamonte and Marek Perkowski

Portland State University

1530-1600

Break

1600-1730

Session 4.

Session Chair: T.B.D.

Title: A Graph-Based Representation for Analyzing Fast Addition Algorithms

Authors: Naofumi Homma, Takafumi Aoki and Tatsuo Higuchi

Tohoku University, Tohoku Institute of Technology

Title: A New Reversible TSG Gate and Its Application For Designing Efficient Adder Circuits

Authors: Himanshu Thapliyal and M.B Srinivas
International Institute of Information Technology

Title: LUT Cascades and Emulators for Realization of Logic Functions

Authors: Tsutomu SASAO, Yukihiro IGUCHI and Munehiro MATSUURA
Kyushu Institute of Technology, Meiji University

1800-

Banquet on the river

Tuesday, 6 September, 2005

0900-1000

Session 5. Invited Talk 2

Title: Molecular Computation Using Hairpins and Secondary Structures of DNA

Speaker: Masami HAGIYA
University of Tokyo

1000-1030

Break

1030-1230

Session 6.

Session Chair: T.B.D.

Title: Evolutionary Algorithm Based Synthesis of Multi-output Ternary Reversible Circuits Using Quantum Cascades

Authors: Md. Mujibur Rahman Khan, Mozammel H. A. Khan and Md. Mostofa Akbar
Bangladesh University of Engineering and Technology, East West University

Title: Reed-Muller Spectra Based Synthesis of Reversible Circuits Using a Quantum Cost Metric

Authors: Dmitri Maslov and D. Michael Miller
University of Victoria

Title: On Realization of 3-qubit Reversible Circuits with the minimum number of non-linear gates

Authors: Guowu Yang, Xiaoyu Song, William N. N. Hung, Marek Perkowski
Portland State University

Title: Minimal Universal Library for $n \times n$ Reversible Circuits

Authors: Guowu Yang, Xiaoyu Song, Marek A. Perkowski and William N. N. Hung
Portland State University

1230-1400

Lunch

1400-1530

Session 7.

Session Chair: T.B.D.

Title: ATPG for Reversible Circuits using Technology-Related Fault Models

Authors: Jeff S. Allen, Jacob D. Biamonte and Marek A. Perkowski
Portland State University

Title: Discrete Function KL Spectrum Computation over Symmetry Groups of Arbitrary Size

Authors: Lun Li and Mitchell A. Thornton
Southern Methodist University

Title: Synthesis of Ternary Quantum Logic Circuits by Decomposition

Authors: Faisal Shah Khan and Marek M. Perkowski
Portland State University

1530-1600

Break

1600-1730

Session 8.

Session Chair: T.B.D.

Title: On approximation by \oplus OBDDs

Authors: Henrik Brosenne, Carsten Damm, Matthias Homeister and Stephan Waack
UniversitAat GAottingen

Title: Quantum Circuit Layout

Authors: Vijaya S. Shivgand, Akashdeep Aulakh and Marek Perkowski
Portland State University

Title: Double Fixed-Polarity Reed-Muller (DFPRM) Design with universal test set
of lower length

Authors: Hazur Rahaman, Debesh K. Das
Bengal Eng. & Sci. University

Poster Session

Title: Word-Level Expressions with Matrix-Valued Coefficients for the
Representation of Discrete Functions

Speaker: Radomir S. Stankovic, Jaakko Astola and Claudio Moraga
Tampere University of Technology