

2019 Reed-Muller Workshop

Program

May 24, 2019

Room 122, Gillin Hall

University of New Brunswick

Fredericton, New Brunswick, Canada

09:00 – 09:10 Registration

09:10 – 09:15 Opening Remarks – Mitchell A. Thornton, Workshop Chair

09:15 – 10:15 Invited Address

Stochastic Computing: Tutorial Introduction and Future Prospects, Vincent Gaudet 1

10:15 – 10:45 Nutrition Break

10:45 – 12:15 Session I

Enumerative Analysis of Asymmetric Functions, Jon Butler and Tsutomu Sasao 3

Bent functions, Bent Permutations and a Variety of Methods to Construct Them, 12
Costas Karanikas, Nikolaos Atreas and Radomir Stanković

A Hybrid Spectral Method for Checking Boolean Function Equivalence, 18
Mathias Soeken, Eleonora Testa and Michael Miller

12:15 – 13:30 Lunch

13:30 – 14:30 Invited Address

A Quarter Century of EXOR Logic Synthesis: Memoir, Tsutomu Sasao 26

14:30 – 15:30 Session II

Fixed Polarity Pascal Transforms with Computer Algebra Applications, 34
Mitchell Thornton and Kaitlin Smith

Geometric Refactoring of Quantum and Reversible Circuits: Quantum Layout, 46
Martin Lukac and Georgiy Krylov

15:30 – 16:00 Nutrition Break

16:00 – 16:30 Plenary Session

An open discussion regarding future Reed-Muller Workshops.

Other Contributions

Reed-Muller Representations in Arithmetic Operations, Danila Gorodecky 53