



RC2014

Call for Participation

Program Chairs

Shigeru Yamashita
Ritsumeikan University

Shin-ichi Minato
Hokkaido University

Program Committee

Holger Bock Axelsen
University of Copenhagen

Alexis De Vos
University of Ghent

Simon Gay
University of Glasgow

Markus Grassl
Centre Quantum Tech

Jarkko J. Kari
University of Turku

Martin Kutrib
University of Giessen

Kazutaka Matsuda
University of Tokyo

D. Michael Miller
University of Victoria

Jackie Rice
University of Lethbridge

Yasuhiro Takahashi
NTT, Japan

Irek Ulidowski
University of Leicester

Janis Voigtländer
University of Bonn

Robert Wille
University of Bremen

Tetsuo Yokoyama
Nanzan University

Paolo Zuliani
Newcastle University

Conference Organizer

Shigeru Yamashita
Ritsumeikan University
ger@cs.ritsumei.ac.jp

Reversible computation has a growing number of promising application areas such as low power design, decoding, program debugging, testing, database recovery, discrete event simulation, reversible algorithms, reversible specification formalisms, reversible programming languages, process algebras, and the modeling of biochemical systems. Furthermore, reversible logic provides a basis for quantum computation with its applications, for example, in cryptography and in the development of more efficient algorithms. First reversible circuits and quantum circuits have been implemented recently and are seen as promising alternatives to CMOS technology.

The conference will bring together researchers from computer science, mathematics, and physics to discuss new developments and directions for future research in Reversible Computation. This particularly includes applications of reversibility in quantum computation. Research papers and work-in-progress reports are within the scope of the conference. Invited talks by leading international experts will complete the program.

Technical Program:

Thursday July 10th, 2014

9.00-10.00 Invited Address | Irek Ulidowski

10.30-11.30 Automata for Reversible Computation

12.50-13.50 Notation and Languages for Reversible Computation

14.10-16.10 Synthesis and Optimization of Reversible Circuits

Friday July 11th, 2014

9.00-10.00 Invited Address | Naoki Takeuchi

10.30-12.00 Synthesis and Optimization of Quantum Circuits

13.10-14.10 Invited Address | Simon Devitt

14.20-15.50 Validation and Representation of Quantum Logic

16.10-17.30 Work-in-Progress Reports and Posters

The 6th Conference on Reversible Computation will take place on July 10th and 11th, 2014 in Kyoto, Japan and is organized by Ritsumeikan University, Hokkaido University, and JST ERATO Minato Discrete Structure Manipulation System Project. Previous editions of this event took place as workshop in York (2009), Bremen (2010), Gent (2011), and Copenhagen (2012) as well as conference in Victoria, Canada (2013).

Further information about the conference:

<http://www.reversible-computation.org>

info@reversible-computation.org

