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.

**Call for Participation**

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**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

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