CURICULUM VITAE

Maslov Dmitri Aleksandrovich
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Date of birth: April 2, 1977

Education:

PhD in Computer Science	University of New Brunswick, Canada dissertation: "Reversible Logic Synthesis" (Oct 2003)
PhD in Mathematics	Lomonosov's Moscow State University, Russia dissertation: "Generalized Continued Fractions" (Oct 1999 - Oct 2002; the program was **not finished** due to living in Canada)
Master's in Computer Science	University of New Brunswick, Canada thesis: "A Method to Find the Best Mixed Polarity Reed-Muller Expansion" (Dec 2001)
Diploma (Master's) in Mathematics	Lomonosov's Moscow State University, Russia thesis: "Generalized Continued Fractions" (finished with red diploma/golden medal, Jul 1999)
High School Diploma	Academician Kolmogorov School affiliated with Lomonosov's Moscow State University, Russia (finished with top level marks, Jun 1994)

Work Experience:

Nov 2003 - now - postdoctoral fellow, Computer Science Department, University of Victoria.
Sep 2003 - Oct 2003 - research assistant, Computer Science Faculty, UNB.
Jul 2003 - Aug 2003 - instructor of CS2303 (Discrete Structures II) and CS3113 (Numerical Methods) at UNB.
Jul 2003 - faculty position at Shad Valley.
Mar 2003 - Jun 2003 - soccer coach (YMCA, volunteer).
Jan 2003 - May 2003 - instructor of CS3113 (Numerical Methods) at UNB.
Jul 2002 - faculty position at Shad Valley.
May 2002 - Jul 2002 - instructor of CS3113 (Numerical Methods) at UNB.
Jul 2001 - faculty position at Shad Valley.
May 2001 - Jul 2001 - instructor of CS2303 (Discrete Structures II) and CS3113 (Numerical Methods) at UNB.

Feb 2000 - Jun 2000 - tutor of Calculus in Lomonosov's Moscow State University.
Oct 1994 - May 1999 - teacher of the highest mathematics to the gifted schoolchildren of grades 6 to 9 in Lomonosov's Moscow State University (volunteer).
Oct 1997 - Dec 1999 - private company, programmer (data bases on Access/scientific programming on C).

Research Interests:

Reversible logic, reversible logic synthesis, digital logic, quantum computations, EXOR minimization, cryptography, number theory.

Memberships and Professional Activities:

1. Member of SIGDA (since June 2003).
2. Member of ACM (since March 2003).

Grants and Scholarships:

1. In 2003 has won Datatel Scholarship ($700 US/year). [12 nominations in Canada]
2. In 2003 was approved for SIGDA travel grant to IWLS-03 (maximum of $570 US). [4 out of 22 were nominated]
3. In 2000 the research was sponsored by RFFI grant (~$150 CAN). [N/A]
4. In 1994-1997 **four times** named Soros student of the year by International Soros Science Education Program ($750 US/year * 4 years). [500 student nominations in Russia, each year]
5. In 1993 had a high school stipend for excellence in studies and research. [9 stipends, ~250 students, Kolmogorov's high school]

Publications:

Journal publications:

1. **D. Maslov**. Generalized continued fractions. Discrete Mathematics Journal of Russian Science Academy, ISSN 0234-0860, vol. 10, series 4, Dec. 1998, pp. 39-60. //(in Russian, in English)

Submitted:

1. **D. Maslov** and G. Dueck. Reversible Cascades with Minimal Garbage. *Submitted to* IEEE Transactions on Computer Aided Design (July 2003).
2. **D. Maslov** and G. Dueck. Improved Quantum Cost for *n*-bit Toffoli gates. *Submitted to* IEE Electronics Letters (September 2003).

Chapters in books:

1. Helped to write the chapter about continued fractions in the book by S.B. Gashkov and V.N. Chubarikov "Arithmetic. Algorithms. Complexity of evaluations." //(in Russian)

Refereed conferences:

1. **D. Maslov.** Dynamic Programming Algorithms as Quantum Circuits: Symmetric Function Realization. *Submitted to* SPIE, section OR-18 (Quantum Information and Computation).
2. **D. Maslov,** G. Dueck, and M. Miller. Fredkin/Toffoli Templates for Reversible Logic Synthesis. International Conference on Computer Aided Design (ICCAD), San Jose, CA, November 2003 *(accepted).*
3. **D. Maslov,** G. Dueck, and M. Miller. Simplification of Toffoli Networks via Templates. 16th Symposium on Integrated Circuits and System Design, Sao Paulo, Brazil, September 2003, pp. 53-58.
4. M. Miller, **D. Maslov,** and G. Dueck. A Transformation Based Algorithm for Reversible Logic Synthesis. Design Automation Conference (DAC), Anaheim, CA, June 2-6, 2003, pp. 318-323.
5. G. Dueck, **D. Maslov,** and M. Miller. Transformation-based Synthesis of Networks of Toffoli/Fredkin Gates. IEEE Canadian Conference on Electrical and Computer Engineering, Montreal, Canada, May 4-7, 2003 (*refereed abstract*).
6. G. Dueck and **D. Maslov.** Reversible Function Synthesis with Minimum Garbage Outputs. 6th International Symposium on Representations and Methodology of Future Computing Technologies, Trier, Germany, March 10-11, 2003, pp. 154-161.
7. **D. Maslov** and G. Dueck. Garbage in Reversible Designs of Multiple-Output Functions. 6th International Symposium on Representations and Methodology of Future Computing Technologies, Trier, Germany, March 10-11, 2003, pp. 162-170.
8. G. Dueck, **D. Maslov,** J. T. Butler, V. Shmerko, and S. Yanushkevich. A Method to Find the Best Mixed Polarity Reed-Muller Expression Using Transeunt Triangle. 5th International Workshop on Applications of Reed-Muller Expansion in Circuit Design, Starkville, MS, August 10-11, 2001, pp. 82-93.

Non-refereed conferences/workshops/poster sessions:

1. **D. Maslov.** Dynamic Programming Algorithms As Reversible Circuits: Symmetric Function Realization. *Technical report TR03-161*, UNB, August, 2003.
2. **D. Maslov** and G. Dueck. Asymptotically Optimal Regular Synthesis of Reversible Networks. International Workshop on Logic Synthesis, Laguna Beach CA, May 28-30, 2003, pp. 226-231.
3. **D. Maslov,** G. Dueck, and M. Miller. Templates for Toffoli Network Synthesis. International Workshop on Logic Synthesis, Laguna Beach CA, May 28-30, 2003, pp. 320-326.
4. **D. Maslov** and G. Dueck. Complexity of Reversible Toffoli Cascades and EXOR PLAs, 12th International Workshop on Post-Binary ULSI Systems, Japan, May 16, 2003, pp. 17-20.
5. **D. Maslov.** Reversible Logic Synthesis. Invited poster presentation on MITACS Fourth Annual Conference and Ottawa Interchange, Ottawa, Canada, May 8-10, 2003.
6. **D. Maslov.** Reversible Synthesis Methods. Second prize on the first MITACS Atlantic Interchange Poster Session, Halifax, Canada, March 24, 2003.
7. **D. Maslov.** Properties of the Decomposition of a Ratio into the Generalized Continuous Fraction with the Minimal Remainder. Conference on Applications of Computer Algebra (IMACS ACA), Saint-Petersburg, Russia, June 2000.
8. A talk on generalized continued fractions on the Lomonosov's Conference, Lomonosov's Moscow State University, 1999.
9. Second prize on the 3rd International Conference of Young Scientists, Hungary, Visegrad, April 29, 1994.
10. Award by the certificate of the first degree on the Third Open Festival of Young Mathematicians and Physicists of Black Sea States, Ukraine, Odessa, September 27, 1993.
11. Award by the certificate of the third degree on the Second International Conference of Young Scientists, Belarus, Minsk, May 7, 1993.

Invited Lectures:

1. Reversible Logic Synthesis. University of Michigan, Michigan, USA, August 4, 2003.