SASHA RUBIN

Am Campus 1
Klosterneuburg 3400
Austria

Objective: Position as research analyst.

EDUCATION

University of Auckland, New Zealand
Ph.D., Computer Science and Mathematics, 2004

University of Cape Town, South Africa
B.Sc., Computer Science and Mathematics, 1998

RESEARCH INTERESTS

My mathematical work studies the expressiveness and limitations of automata theory and mathematical logic for describing computation.

SPECIAL SKILLS

Writing

Published academic papers: surveys, journal articles, conference proceedings; refereed academic papers.

Teaching and public speaking

Taught courses, gave seminars and invited talks in mathematics and computer science at a variety of levels: highschool, undergraduate, postgraduate.

EMPLOYMENT

Postdoctoral Researcher, IST Austria and TU Vienna, Austria, 3.2012 –

Visiting Researcher, Tel Aviv University, 5.2011 – 8.2011

Visiting Lecturer, University of Cape Town, Department of Mathematics, 2.2010 – 5.2010

Visiting Assistant Professor, Cornell University, Department of Mathematics, 08.2008 – 12.2009

Postdoctoral Fellow, University of Auckland, Department of Computer Science, supported by a New Zealand Science and Technology Postdoctoral Fellowship, 12.2005 – 02.2008

PUBLICATIONS

Automatic Structures in *Automata: From mathematics to applications*, to be published by EMS and AutomathA network.

A Myhill-Nerode Theorem for Automata with Advice with A. Kruckman, J. Sheridan and B. Zax, *GandALF 2012*.

Interpretations in trees with countably many branches with A. Rabinovich, appeared in *Proceedings of 27th Annual IEEE Symposium on Logic in Computer Science,* 551 – 560*,* 2012.

Alternating Traps in Parity Games with P. Phalitnonkiat, A. Grinshpun, A.Tarfulea, *accepted to* Theoretical Computer Science.

Automata based presentations of infinite structures with V. Bárány and E. Grädel, in *Finite and Algorithmic Model Theory*, Series: London Mathematical Society Lecture Note Series (No. 379),

2011.

Cardinality and counting quantifiers on omega-automatic structures, with V. Bárány and Ł. Kaiser, 25th Annual Symposium on Theoretical Aspects of Computer Science, 2008.

Order invariant MSO is stronger than counting MSO, with T. Ganzow, 25th Annual Symposium on Theoretical Aspects of Computer Science, 2008.

Automata presenting structures: A survey of the finite-string case, The Bulletin of Symbolic Logic, Volume 14, Issue 2, 2008, 169-209.

Automatic Structures: Richness and Limitations, with B. Khoussainov, A. Nies and F. Stephan, Logical Methods in Computer Science, Vol 3, 2007. Appeared in Proceedings of 19th Annual IEEE Symposium on Logic in Computer Science, $44-53$, 2004.

Automatic linear orders and trees, with B. Khoussainov and F. Stephan, ACM Transactions on Computational Logic, $6(4), 675-700, 2005$. Appeared in Proceedings of 18th Annual IEEE Symposium on Logic in Computer Science, 2003, as *Automatic Partial Orders*.

Verifying ω-regular Properties of Markov Chains, with D. Bustan and M.Y. Vardi, 16th International conference on Computer Aided Verification, $189-201, 2004$.

Definability and Regularity in Automatic Structures, with B. Khoussainov and F. Stephan, 21st Annual Symposium on Theoretical Aspects of Computer Science, $440-451, 2004$.

Automatic Structures - Overview and Future Directions, with B. Khoussainov, Journal of Automata, Languages and Combinatorics, $8(2), 287-301, 2003$.

Some Results on Automatic Structures, with B. Khoussainov and H. Ishihara, 17th Annual IEEE Symposium on Logic in Computer Science, 2002.

Graphs with Automatic Presentations over a Unary Alphabet Journal of Automata, Languages and Combinatorics, $6(4), 467-480, 2001$.

Finite Automata and Well Ordered Sets, New Zealand Journal of Computing, $7(2), 39-46, 1999$.