

Publications

Refereed Journal Publications

- [A1] C. Baier, J.-P. Katoen, H. Hermanns, and V. Wolf. “Comparative branching-time semantics for Markov chains”. In: *Information and Computation* 200 (2005), pp. 149–214.
- [A2] V. Wolf, R. Goel, M. Mateescu, and T. A. Henzinger. “Solving the Chemical Master Equation Using Sliding Windows”. In: *BMC Systems Biology Journal* 4.42 (2010).
- [A3] M. Mateescu, V. Wolf, F. Didier, and T. A. Henzinger. “Fast Adaptive Uniformisation of the Chemical Master Equation.” In: *IET Systems Biology Journal* 4.6 (2010).
- [A4] T. A. Henzinger, B. Jobstmann, and V. Wolf. “Formalisms for Specifying Markovian Population Models”. In: *Journal of Foundations of Computer Science* 22 (4 2011).
- [A5] F. Didier, T. A. Henzinger, M. Mateescu, and V. Wolf. “Approximation of Event Probabilities in Noisy Cellular Processes”. In: *Journal of Theoretical Computer Science* 412.21 (2011), pp. 2128–2141.
- [A6] T. Dayar, H. Hermanns, D. Spieler, and V. Wolf. “Bounding the Equilibrium Distribution of Markov Population Models.” In: *Numerical Linear Algebra with Applications* (2011). To appear.
- [A7] J.-P. Katoen, D. Klink, M. Leucker, and V. Wolf. “Three-Valued Abstraction for Probabilistic Systems.” In: *Journal on Logic and Algebraic Programming* (2011). To appear.
- [A8] T. Dayar, W. Sandmann, D. Spieler, and V. Wolf. “Infinite Level-Dependent QBDs and Matrix Analytic Solutions for Stochastic Chemical Kinetics”. In: *Advances in Applied Probability* 43.4 (2011).
- [A9] L. Mikeev, M. Neuhäuser, D. Spieler, and V. Wolf. “On-the-fly Verification and Optimization of DTA-properties for Large Markov Chains.” In: *Formal Methods in System Design* (2012), pp. 1–25.
- [A10] J. Arand, D. Spieler, T. Karius, D. Meilinger, A. Meissner, T. Jenuwein, G. Xu, H. Leonhardt, V. Wolf, and J. Walter. “In vivo control of CpG and non-CpG methylation by DNA methyltransferases”. In: *PLoS Genetics* 8.6 (2012).
- [A11] A. Andreychenko, L. Mikeev, D. Spieler, and V. Wolf. “Approximate maximum likelihood estimation for stochastic chemical kinetics”. In: *EURASIP Journal on Bioinformatics and Systems Biology* 9 (2012).

- [A12] J. Hasenauer, V. Wolf, A. Kazeroonian, and F. Theis. “Method of conditional moments for the Chemical Master Equation”. In: *Journal of Mathematical Biology, Springer* (2013).

Refereed Conference Publications

- [B1] C. Baier, J.-P. Katoen, H. Hermanns, and V. Wolf. “Comparative Branching Time Semantics for Markov Chains”. In: *Proceedings of the 14th International Conference on Concurrency Theory (CONCUR’03)*. Vol. 2761. Lecture Notes in Computer Science. Springer, 2003, pp. 492–508.
- [B2] V. Wolf, C. Baier, and M. Majster-Cederbaum. “Trace machines for observing continuous-time Markov chains”. In: *Proceedings of the International Workshop on Quantitative Aspects of Programming Languages (QAPL’04)*. Vol. 153. Electronic Notes in Theoretical Computer Science. Elsevier, 2004, pp. 259–277.
- [B3] V. Wolf. “Testing Theory for Probabilistic Systems”. In: *Model-Based Testing of Reactive Systems*. Vol. 3472. Lecture Notes in Computer Science. Springer, 2005, pp. 233–275.
- [B4] H. Busch, W. Sandmann, and V. Wolf. “A Numerical Aggregation Algorithm for the Enzyme-Catalyzed Substrate Conversion”. In: *Proceedings of the 4th International Conference on Computational Methods in Systems Biology (CMSB’06)*. Vol. 4210. Lecture Notes in Bioinformatics. Springer, 2006, pp. 298–311.
- [B5] C. Baier and V. Wolf. “Stochastic Reasoning About Channel-based Component Connectors”. In: *Proceedings of the 8th International Conference on Coordination Models and Languages (COORDINATION’06)*. Vol. 4038. Lecture Notes in Computer Science. Springer, 2006, pp. 1–15.
- [B6] H. Fecher, M. Leucker, and V. Wolf. “Don’t know in probabilistic systems”. In: *Proceedings of 13th International SPIN Workshop on Model Checking of Software (SPIN’06)*. Vol. 3925. Lecture Notes in Computer Science. Springer, 2006, pp. 71–88.
- [B7] V. Wolf, C. Baier, and M. E. Majster-Cederbaum. “Trace Semantics for Stochastic Systems with Nondeterminism”. In: *Proceedings of the International Workshop on Quantitative Aspects of Programming Languages (QAPL’06)*. Vol. 164. Electronic Notes in Theoretical Computer Science. Elsevier, 2006, pp. 187–204.
- [B8] V. Wolf. “Modelling of Biochemical Reactions by Stochastic Automata Networks”. In: *Proceedings of the International Workshop on Membrane Computing and Biologically Inspired Process Calculi (MecBic’06)*. Vol. 171. Electronic Notes in Theoretical Computer Science. Elsevier, 2007.

- [B9] C. Baier, H. Hermanns, J.-P. Katoen, and V. Wolf. “Bisimulation and Simulation Relations for Markov Chains”. In: *Proceedings of the Workshop Essays on Algebraic Process Calculi (ACP’06)*. Vol. 162. Electronic Notes in Theoretical Computer Science. Elsevier, 2006, pp. 73–78.
- [B10] J.-P. Katoen, D. Klink, M. Leucker, and V. Wolf. “Three-Valued Abstraction for Continuous-Time Markov Chains”. In: *Proceedings of the 19th International Conference on Computer Aided Verification (CAV’07)*. Vol. 4590. Lecture Notes in Computer Science. Springer, 2007, pp. 316–329.
- [B11] M. E. Majster-Cederbaum, N. Semmelrock, and V. Wolf. “Interaction Models for Biochemical Reactions”. In: *Proceedings of the International Conference on Bioinformatics and Computational Biology (BIOCOMP’07)*. CSREA Press, 2007, pp. 480–486.
- [B12] J.-P. Katoen, D. Klink, M. Leucker, and V. Wolf. “Abstraction for Stochastic Systems by Erlang’s Method of Stages”. In: *Proceedings of the 19th International Conference on Concurrency Theory (CONCUR’08)*. Vol. 5201. Lecture Notes in Computer Science. Springer, 2008, pp. 279–294.
- [B13] W. Sandmann and V. Wolf. “Computational Probability for Systems Biology”. In: *Proceedings of the International Workshop on Formal Methods in Systems Biology (FMSB’08)*. Vol. 5054. Lecture Notes in Bioinformatics. Springer, 2008, pp. 33–47.
- [B14] T. Henzinger, M. Mateescu, and V. Wolf. “Sliding Window Abstraction for Infinite Markov Chains”. In: *Proceedings of the 21st International Conference on Computer Aided Verification (CAV’09)*. Vol. 5643. Lecture Notes in Computer Science. Springer, 2009, pp. 337–352.
- [B15] T. A. Henzinger, B. Jobstmann, and V. Wolf. “Formalisms for Specifying Markovian Population Models”. In: *Proceedings of the 3rd International Workshop on Reachability Problems (RP’09)*. Vol. 5797. Lecture Notes in Computer Science. Springer, 2009.
- [B16] F. Didier, T. A. Henzinger, M. Mateescu, and V. Wolf. “Approximation of Event Probabilities in Noisy Cellular Processes”. In: *Proceedings of the 7th International Conference on Computational Methods in Systems Biology (CMSB’09)*. Vol. 5688. Lecture Notes in Bioinformatics. Springer, 2009, pp. 173–183.
- [B17] F. Didier, T. A. Henzinger, M. Mateescu, and V. Wolf. “Fast Adaptive Uniformization of the Chemical Master Equation”. In: *Proceedings of the High Performance Computational Systems Biology Workshop (HIBI’09)*. IEEE Computer Society, 2009, pp. 118–127.
- [B18] T. Dayar, H. Hermanns, D. Spieler, and V. Wolf. “Bounding the Equilibrium Distribution of Markov Population Models”. In: *Proceedings of the International Workshop on the Numerical Solution of Markov Chains (NSMC’10)*. 2010.

- [B19] T. A. Henzinger, M. Mateescu, L. Mikeev, and V. Wolf. “Hybrid Numerical Solution of the Chemical Master Equation”. In: *Proceedings of the 8th International Conference on Computational Methods in Systems Biology (CMSB '10)*. ACM International Conference Proceeding Series. 2010, pp. 55–65.
- [B20] F. Didier, T. A. Henzinger, M. Mateescu, and V. Wolf. “SABRE: A Tool for Stochastic Analysis of Biochemical Reaction Networks”. In: *Proceedings of the 7th International Conference on Quantitative Evaluation of Systems (QEST'10)*. IEEE Computer Society, 2010, pp. 193–194.
- [B21] T. Dayar, L. Mikeev, and V. Wolf. “On the Numerical Analysis of Stochastic Lotka-Volterra Models”. In: *Proceedings of the Workshop on Computer Aspects of Numerical Algorithms (CANA '10)*. IMCSIT, 2010.
- [B22] A. Andreychenko, P. Crouzen, and V. Wolf. “On-the-fly Uniformization of Time-Inhomogeneous Infinite Markov Population Models”. In: *Proceedings of the 9th International Workshop on Quantitative Aspects of Programming Languages (QAPL'11)*. Electronic Proceedings in Theoretical Computer Science. 2011.
- [B23] M. Lapin, L. Mikeev, and V. Wolf. “SHAVE – Stochastic Hybrid Analysis of Markov Population Models”. In: *Proceedings of the 14th International Conference on Hybrid Systems: Computation and Control (HSCC'11)*. ACM International Conference Proceeding Series. 2011.
- [B24] L. Mikeev, W. Sandmann, and V. Wolf. “Efficient Calculation of Rare Event Probabilities in Markovian Queueing Networks”. In: *Proceedings of the 5th International ICST Conference on Performance Evaluation Methodologies and Tools (VALUETOOLS'11)*. ACM International Conference Proceeding Series. 2011.
- [B25] A. Andreychenko, L. Mikeev, D. Spieler, and V. Wolf. “Parameter Identification for Markov Models of Biochemical Reactions”. In: *Proceedings of the 23rd International Conference on Computer Aided Verification (CAV'11)*. Vol. 6806. Lecture Notes of Computer Science. Springer, 2011, pp. 83–98.
- [B26] L. Mikeev and V. Wolf. “Parameter Estimation for Stochastic Hybrid Models of Biochemical Reaction Networks”. In: *Proceedings of the 15th International Conference on Hybrid Systems: Computation and Control (HSCC'12)*. ACM International Conference Proceeding Series. 2012.
- [B27] D. Spieler and V. Wolf. “Efficient Steady State Analysis of Multimodal Markov Chains”. In: *Proceedings of the 20th International Conference on Analytic and Stochastic Modelling Techniques and Applications (ASMTA'13)*. Lecture Notes of Computer Science. Springer, 2013.

- [B28] A. Angius, A. Horvath, and V. Wolf. “Approximate transient analysis of queueing networks by quasi product forms”. In: *Proceedings of the 20th International Conference on Analytic and Stochastic Modelling Techniques and Applications (ASMTA’13)*. Lecture Notes of Computer Science. Springer, 2013.

Other Publications

- [C1] V. Wolf. “Bisimulation und Simulation für Markovmodelle”. Diploma thesis. University of Bonn, 2003.
- [C2] V. Wolf. “Equivalences on Phase Type Processes”. Dissertation. University of Mannheim, 2008.