

PERSONAL DETAILS

Born 24th December 1983 in a suburb of Moscow
Citizenship German and Russian
Languages Bilingual in German and Russian, fluent in English, basic Italian
Address SysMA Research Unit
School for Advanced Studies Lucca
Piazza San Francesco 19
55100 Lucca, Italy
E-Mail max.tschaikowski@imtlucca.it

DEGREES

Ph.D. in Computer Science 2014

Ludwig Maximilian University of Munich, Germany

Supervisor: Prof. Mirco Tribastone, Ph.D.

Thesis Title: Fluid Aggregations for Markovian Process Algebra

Diplom in Mathematics with minors in Computer Science 2010

Ludwig Maximilian University of Munich, Germany

Supervisor: Prof. Dr. Hans-Dieter Donder

Thesis Title: Combinatorial Properties of Singular Cardinal Numbers

RESEARCH INTERESTS

- Construction, Reduction and Verification of Quantitative Models
- Approximation Techniques, Optimal Control Theory, Differential Equations
- Chemical Reaction Networks, Queueing Networks, Process Algebra, Stochastic Processes

EMPLOYMENT

Assistant Professor 07/2015 - now

IMT School for Advanced Studies Lucca, Italy

Research Fellow 07/2014 - 06/2015

University of Southampton, UK

Research Assistant 10/2013 - 06/2014

University of Southampton, UK

Research Assistant 10/2010 - 09/2013

Ludwig Maximilian University of Munich, Germany

PUBLICATIONS

Journals

- Max Tschaikowski and Mirco Tribastone. Spatial Fluid Limits for Stochastic Mobile Networks. *Performance Evaluation*, 2017. To appear
- L. Cardelli, A. Csikász-Nagy, N. Dalchau, M. Tribastone, and M. Tschaikowski. Noise Reduction in Complex Biological Switches. *Scientific reports*, 2016
- M. Tschaikowski and M. Tribastone. Approximate reduction of heterogeneous nonlinear models with differential hulls. *IEEE Transactions in Automatic Control*, 2016
- M. Tschaikowski and M. Tribastone. A computational approach to steady-state convergence of fluid limits for Coxian queuing networks with abandonment. *Annals of Operations Research*, 2016
- M. Tschaikowski and M. Tribastone. A unified framework for differential aggregations in Markovian process algebra. *Journal of Logical and Algebraic Methods in Programming*, 2014
- M. Tschaikowski and M. Tribastone. Tackling continuous state-space explosion in a Markovian process algebra. *Theoretical Computer Science*, 2014
- M. Tschaikowski and M. Tribastone. Exact fluid lumpability in Markovian process algebra. *Theoretical Computer Science*, 2013

Book Chapters

- L. Bulej, T. Bureš, I. Gerostathopoulos, V. Horký, J. Keznikl, L. Marek, M. Tschaikowski, M. Tribastone, and P. Tůma. *Software Engineering for Collective Autonomous Systems: The ASCENS Approach*, chapter Supporting Performance Awareness in Autonomous Ensembles, pages 291–322. Springer International Publishing, Cham, 2015

Conferences

- S. Tognazzi, M. Tribastone, M. Tschaikowski, and A. Vandin. EGAC: A Genetic Algorithm to Compare Chemical Reaction Networks. In *The Genetic and Evolutionary Computation Conference (GECCO)*, 2017. To appear
- L. Cardelli, M. Tribastone, M. Tschaikowski, and A. Vandin. ERODE: A Tool for the Evaluation and Reduction of Ordinary Differential Equations. In *22nd International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, 2017. To appear
- L. Bortolussi and M. Tschaikowski. Fluid Analysis of Spatio-Temporal Properties of Agents in a Population Model. In *23rd International Conference on Analytical & Stochastic Modelling Techniques & Applications (ASMTA)*, 2016
- L. Cardelli, M. Tribastone, M. Tschaikowski, and A. Vandin. Comparing chemical reaction networks: A categorical and algorithmic perspective. In *31th IEEE Symposium on Logic in Computer Science (LICS)*, 2016
- L. Cardelli, M. Tribastone, M. Tschaikowski, and A. Vandin. Efficient syntax-driven lumping of differential equations. In *21st International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, 2016
- L. Cardelli, M. Tribastone, M. Tschaikowski, and A. Vandin. Symbolic computation of differential equivalences. In *43rd ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL)*, 2016
- M. Kowal, M. Tschaikowski, M. Tribastone, and I. Schaefer. Scaling Size and Parameter Spaces in Variability-aware Software Performance Models. In *30th International Conference on Automated Software Engineering (ASE)*, 2015

- L. Cardelli, M. Tribastone, M. Tschaikowski, and A. Vandin. Forward and Backward Bisimulations for Chemical Reaction Networks. In *26th International Conference on Concurrency Theory (CONCUR)*, 2015
- M. Tschaikowski and M. Tribastone. A Partial-differential Approximation for Spatial Stochastic Process Algebra. In *VALUETOOLS*, 2014
- M. Tschaikowski and M. Tribastone. Insensitivity to Service-time Distributions for Fluid Queueing Models. In *VALUETOOLS*, 2013
- M. Tschaikowski and M. Tribastone. Exact fluid lumpability for Markovian process algebra. In *23rd International Conference on Concurrency Theory (CONCUR)*, LNCS, pages 380–394, 2012
- M. Tschaikowski and M. Tribastone. Generalised Communication for Interacting Agents. In *9th International Conference on Quantitative Evaluation of Systems (QEST)*, IEEE, pages 178–188, September 2012

Workshops

- M. Tschaikowski and M. Tribastone. Extended Differential Aggregations in Process Algebra for Performance and Biology. In *12th Quantitative Aspects of Programming Languages and Systems (QAPL)*, 2014
- M. Tschaikowski and M. Tribastone. Refined theory of packages. In *10th Workshop on Process Algebra and Stochastically Timed Activities (PASTA)*, 2011

CONFERENCE PRESENTATIONS AND INVITED TALKS

- Invited talk at the Logic Group of the University of Verona in 2016, Verona, Italy
- Invited talk at Microsoft Research in 2016, Cambridge, UK
- International Conference on Analytical & Stochastic Modelling Techniques & Applications (**ASMTA**) 2016, Cardiff, UK
- Symposium on Logic in Computer Science (**LICS**) 2016, New York City, NY, USA
- Symposium on Principles of Programming Languages (**POPL**) 2016, St. Petersburg, FL, USA
- International Conference on Automated Software Engineering (**ASE**) 2015, Lincoln, NE, USA
- International Conference on Performance Evaluation Methodologies and Tools (**VALUETOOLS**) 2014, Bratislava, Slovakia
- Invited talk at the Modelling and Simulation group in 2014, University of Saarland, Germany
- European Conference on Queueing Theory (**ECQT**), 2014, Ghent, Belgium
- International Conference on Performance Evaluation Methodologies and Tools (**VALUETOOLS**) 2013, Turin, Italy
- Invited talk at the PEPA group in 2013, University of Edinburgh, UK
- International Conference on Concurrency Theory (**CONCUR**) 2012, Newcastle upon Tyne, UK
- International workshop on Process Algebras and Stochastically Timed Activities (**PASTA**) 2011, Ragusa, Italy

COURSES GIVEN AS ASSISTANT PROFESSOR AT IMT LUCCA

Dec 2015, Qualitative and Quantitative Formal Methods in Computer Science

TUTORIALS GIVEN AS RESEARCH ASSISTANT AT LMU MUNICH

Apr 2013 - Sep 2013, Formal Techniques for Software Engineering

Oct 2012 - Mar 2013, Software Engineering

Apr 2012 - Sep 2012, Formal Performance Modelling of Computer Systems

Apr 2012 - Sep 2012, Formal Specification and Verification

Oct 2011 - Mar 2012, Software Engineering

Apr 2011 - Sep 2011, Formal Performance Modelling of Computer Systems

Oct 2010 - Mar 2011, Formal Specification and Verification

ACADEMIC SERVICES

As co-supervisor of students at LMU Munich

- Bachelor thesis of Isabella Cortrie, 2012
- Project work of Mihai Gottschling, 2012

As reviewer

- Journals
 - Journal of Systems and Software
 - Performance Evaluation
- Workshops
 - EPEW 2015

As sub-reviewer

- Journals
 - IEEE/ACM Transactions on Networking
 - Performance Evaluation
 - The Computer Journal
- Conferences
 - CMSB 2016
 - CONCUR 2016
 - ICPE 2015
 - QEST 2012, 2014, 2016
 - STACS 2016
 - VALUETOOLS 2013, 2014, 2015
- Workshops
 - EPEW 2011
 - QAPL 2014
 - SASB 2016