

# Curriculum Vitae

Thomas A. Henzinger

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## Address

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## Research

Mathematical logic, automata and game theory, models of computation.  
Analysis of reactive, stochastic, real-time, and hybrid systems.  
Formal software and hardware verification, especially model checking.  
Design and implementation of concurrent and embedded software.  
Executable modeling of biological systems.

## Education

September 1991	Ph.D., Computer Science	Stanford University
July 1987	Dipl.-Ing., Computer Science	Kepler University, Linz
August 1986	M.S., Computer and Information Sciences	University of Delaware

## Employment

Since September 2009	President	IST Austria
April 2004 to June 2011	Adjunct Professor, Electrical Engineering and Computer Sciences	University of California, Berkeley
April 2004 to August 2009	Professor, Computer and Communication Sciences	EPFL
January 1999 to March 2000	Director	Max-Planck Institute for Computer Science, Saarbrücken
July 1998 to March 2004	Professor, Electrical Engineering and Computer Sciences	University of California, Berkeley
July 1997 to June 1998	Associate Professor, Electrical Engineering and Computer Sciences	University of California, Berkeley
January 1996 to June 1997	Assistant Professor, Electrical Engineering and Computer Sciences	University of California, Berkeley
January 1992 to December 1996	Assistant Professor, Computer Science	Cornell University
October 1991 to December 1991	Postdoctoral Scientist, IMAG Laboratory	Université Joseph Fourier, Grenoble

## Honors

Doctor honoris causa, Université Joseph Fourier, Grenoble, 2012.  
Member, Austrian Academy of Sciences, 2011.  
ACM SIGSOFT Impact Paper Award, 2011.  
ERC Advanced Investigator Grant, 2010.  
Corresponding Member, Austrian Academy of Sciences, 2009.  
ISI Highly Cited Researcher, 2006.  
ACM Fellow, 2006.  
IEEE Fellow, 2006.  
Member, Academia Europaea, 2006.  
Best Paper Award, ACM Symposium on Foundations of Software Engineering, 2006.  
Member, German Academy of Sciences (Leopoldina), 2005.  
IEEE Senior Member, 2004.  
Best Paper Award, International Conference on Concurrency Theory, 2001.  
Honorary Professor of Computer Science, University of the Saarland, 1999.  
ONR Young Investigator Award, 1995.  
NSF Faculty Early Career Development Award, 1995.  
Nominee for ACM Best Dissertation Award, Stanford University, 1992.  
Ph.D. *with Distinction in Teaching*, Stanford University, 1991.  
Forsythe Memorial Award for Excellence in Student Teaching, Stanford University, 1989.  
IBM Graduate Fellow, 1988–1991.  
Dipl.-Ing. *with Distinction*, University of Linz, 1987.  
Fulbright Fellow, 1985–1986.

## Doctoral Students

1. Maria Mateescu (Ph.D., EPFL, 2011):  
*Propagation Models for Biochemical Reaction Networks.*
2. Grégory Théoduloz (Ph.D., EPFL, 2010):  
*Software Verification by Combining Program Analyses of Adjustable Precision.*  
Won a Microsoft Postgraduate Research Studentship.
3. Vasu Singh (Ph.D., EPFL, 2009):  
*Formalizing and Verifying Transactional Memories.*
4. Vinayak S. Prabhu (Ph.D., University of California, Berkeley, 2008):  
*Games for the Verification of Timed Systems.*
5. Slobodan Matic (Ph.D., University of California, Berkeley, 2008):  
*Compositionality in Deterministic Real-Time Embedded Systems.*
6. Johannes Borgström (Ph.D., EPFL, 2008):  
*Equivalences and Calculi for the Formal Verification of Cryptographic Protocols*  
(jointly supervised with Uwe Nestmann).
7. Arkadeb Ghosal (Ph.D., University of California, Berkeley, 2008):  
*A Hierarchical Coordination Language for Reliable Real-Time Tasks*  
(jointly supervised with Alberto L. Sangiovanni-Vincentelli).

8. Arindam Chakrabarti (Ph.D., University of California, Berkeley, 2007):  
*A Framework for the Compositional Design and Analysis of Systems.*
9. Krishnendu Chatterjee (Ph.D., University of California, Berkeley, 2007):  
*Stochastic Omega-Regular Games.*  
Won the Sakrison Memorial Award, University of California, Berkeley, 2008.  
Won the Ackermann Award, European Association for Computer Science Logic, 2008.
10. Simon Kramer (Ph.D., EPFL, 2007):  
*Logical Concepts in Cryptography*  
(jointly supervised with Uwe Nestmann).
11. Ranjit Jhala (Ph.D., University of California, Berkeley, 2004):  
*Program Verification by Lazy Abstraction.*  
Won the Sakrison Memorial Award, University of California, Berkeley, 2005.
12. Rupak Majumdar (Ph.D., University of California, Berkeley, 2003):  
*Symbolic Algorithms for Verification and Control.*  
Won the Chua Award, University of California, Berkeley, 2002.
13. Benjamin Horowitz (Ph.D., University of California, Berkeley, 2003):  
*GIOTTO: A Time-triggered Language for Embedded Programming.*
14. Freddy Y.C. Mang (Ph.D., University of California, Berkeley, 2002):  
*Games in Open Systems Verification and Synthesis.*
15. Shaz Qadeer (Ph.D., University of California, Berkeley, 1999):  
*Algorithms and Methodology for Scalable Model Checking.*
16. Sriram K. Rajamani (Ph.D., University of California, Berkeley, 1999):  
*New Directions in Refinement Checking.*
17. Peter W. Kopke (Ph.D., Cornell University, 1996):  
*The Theory of Rectangular Hybrid Automata.*
18. Pei-Hsin Ho (Ph.D., Cornell University, 1995):  
*Automatic Analysis of Hybrid Systems.*

Current doctoral students at IST Austria: Arjun Radhakrishna, Anmol V. Singh, Damien Zufferey.

## Software

1. SABRE, a state explorer for continuous-time Markov chains (since 2009).
2. FOIL, a model checker for transactional-memory implementations (since 2009).
3. GIST, a stochastic game solver (since 2009).
4. FLEXPRICE, a system for the provisioning of resources in a cloud environment (since 2009).
5. BLAST, a model checker for C programs (2001–08).
6. CHIC, a JBuilder plug-in for interface automata (2001–04).
7. GIOTTO, a coordination language for distributed real-time tasks (2001–04).
8. MOCHA, a verification tool suite for reactive modules (1997–2000).
9. HYTECH, a symbolic model checker for hybrid systems (1993–96).
10. PROOFPAD, an interactive proof editor (1984–85).

## Sabbaticals

1. Microsoft Research, Redmond, Washington, August 2005; August 2006.
2. Department of Information Technology and Electrical Engineering, ETH Zürich, June 2002.
3. Department of Computer Science, Technical University Munich, May 2002.
4. Department of Computer Science, Stanford University, July 2001 to April 2002.
5. AT&T Bell Laboratories, Murray Hill, New Jersey, summers 1991–1995.
6. Department of Applied Mathematics, Weizmann Institute of Science, March to June 1989; July 1990.

## Publications

PDF files for all publications can be found at [www.ist.ac.at/~tah](http://www.ist.ac.at/~tah).

## Refereed Conference Papers

1. Damien Zufferey, Thomas Wies, and Thomas A. Henzinger, “Ideal abstractions for well-structured transition systems,” *Proceedings of the Twelfth International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI)*, Lecture Notes in Computer Science, Springer, 2012.
2. Udi Boker and Thomas A. Henzinger, “Determinizing discounted-sum automata,” *Proceedings of the 20th International Conference on Computer Science Logic (CSL)*, Leibniz International Proceedings in Informatics 12, 2011, pp. 82–96.
3. Thomas A. Henzinger, Dejan Ničković, Nir Piterman, Anmol V. Singh, Moshe Vardi, and Jasmin Fisher, “Dynamic reactive modules,” *Proceedings of the 22nd International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 6901, Springer, 2011, pp. 404–418.
4. Raluca Halalai, Thomas A. Henzinger, and Vasu Singh, “Quantitative evaluation of BFT protocols,” *Proceedings of the Eighth Annual Conference on Quantitative Evaluation of Systems (QEST)*, IEEE Computer Society Press, 2011, pp. 255–264.
5. Thomas A. Henzinger and Maria Mateescu, “Tail approximation for the chemical master equation,” *Proceedings of the Eighth International Workshop on Computational Systems Biology (WCSB)*, Tampere International Center for Signal Processing 57, 2011, pp. 69–72. Invited to a special issue of the *EURASIP Journal on Bioinformatics and Systems Biology* for selected papers of WCSB 11.
6. Pavol Cerný, Krishnendu Chatterjee, Thomas A. Henzinger, Arjun Radhakrishna, and Rohit Singh, “Quantitative synthesis for concurrent programs,” *Proceedings of the 23rd International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 6806, Springer, 2011, pp. 243–259.
7. Pavol Cerný, Krishnendu Chatterjee, and Thomas A. Henzinger, “The complexity of quantitative information-flow problems,” *Proceedings of the 24th Annual Computer Security Foundations Symposium (CSF)*, IEEE Computer Society Press, 2011, pp. 205–217.
8. Thomas A. Henzinger, Anmol V. Singh, Vasu Singh, Thomas Wies, and Damien Zufferey, “Static scheduling in clouds,” *Proceedings of the Third International Workshop on Hot Topics in Cloud Computing (HotCloud)*, USENIX, 2011.
9. Udi Boker, Krishnendu Chatterjee, Thomas A. Henzinger, and Orna Kupferman, “Temporal specifications with accumulative values,” *Proceedings of the 26th Annual Symposium on Logic in Computer Science (LICS)*, IEEE Computer Society Press, 2011, pp. 43–52.

10. Krishnendu Chatterjee, Thomas A. Henzinger, and Florian Horn, “The complexity of request-response games,” *Proceedings of the Fifth International Conference on Language and Automata Theory and Applications (LATA)*, Lecture Notes in Computer Science 6638, Springer, 2011, pp. 227–237.
11. Krishnendu Chatterjee, Thomas A. Henzinger, Barbara Jobstmann, and Rohit Singh. “QUASY: Quantitative synthesis tool,” *Proceedings of the 17th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, Lecture Notes in Computer Science 6605, Springer, 2011, pp. 267–271.
12. Thomas A. Henzinger, Vasu Singh, Thomas Wies, and Damien Zufferey, “Scheduling large jobs by abstraction refinement,” *Proceedings of EuroSys*, ACM Press, 2011, pp. 329–342.
13. Krishnendu Chatterjee, Laurent Doyen, Thomas A. Henzinger, and Jean-François Raskin, “Generalized mean-payoff and energy games,” *Proceedings of the 30th International Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS)*, Leibniz International Proceedings in Informatics 8, 2010, pp. 505–516.
14. Jérôme Feret, Thomas A. Henzinger, Heinz Koepl, and Tatjana Petrov, “Lumpability abstractions of rule-based systems,” *Proceedings of the Fourth International Workshop on Membrane Computing and Biologically Inspired Process Calculi (MECBIC)*, Electronic Proceedings in Theoretical Computer Science, 2010, pp. 137–156. Invited to a special issue of the *Theoretical computer Science* for selected papers of MECBIC 10.
15. Thomas A. Henzinger, Maria Mateescu, Linar Mikeev, and Verena Wolf, “Hybrid numerical solution of the chemical master equation,” *Proceedings of the Eighth International Conference on Computational Methods in Systems Biology (CMSB)*, ACM Press, 2010, pp. 55–65.
16. Frédéric Didier, Maria Mateescu, Verena Wolf, and Thomas A. Henzinger, “SABRE: A tool for the stochastic analysis of biochemical reaction networks,” *Proceedings of the Seventh Annual Conference on Quantitative Evaluation of Systems (QEST)*, IEEE Computer Society Press, 2010, pp. 193–194.
17. Thomas A. Henzinger, Thibaud B. Hottelier, and Laura Kovács, “Aligators for arrays,” *Proceedings of the 17th International Conference on Logic for Programming, Artificial Intelligence, and Reasoning (LPAR)*, Lecture Notes in Artificial Intelligence 6397, Springer, 2010, pp. 348–356.
18. Régis Blanc, Thomas A. Henzinger, Thibaud B. Hottelier, and Laura Kovács, “ABC: Algebraic bound computation for loops,” *Proceedings of the 16th International Conference on Logic for Programming, Artificial Intelligence, and Reasoning (LPAR)*, Lecture Notes in Artificial Intelligence 6355, Springer, 2010, pp. 103–118.
19. Pavol Cerný, Thomas A. Henzinger, and Arjun Radhakrishna, “Simulation distances,” *Proceedings of the 21st International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 6269, Springer, 2010, pp. 253–268.
20. Krishnendu Chatterjee, Laurent Doyen, Herbert Edelsbrunner, Thomas A. Henzinger, and Philippe Rannou, “Mean-payoff automaton expressions,” *Proceedings of the 21st International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 6269, Springer, 2010, pp. 269–283.
21. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “Qualitative analysis of partially observable Markov decision processes,” *Proceedings of the 35th International Symposium on Mathematical Foundations of Computer Science (MFCS)*, Lecture Notes in Computer Science 6281, Springer, 2010, pp. 258–269.
22. Krishnendu Chatterjee, Laurent Doyen, Hugo Gimbert, and Thomas A. Henzinger, “Randomness for free,” *Proceedings of the 35th International Symposium on Mathematical Foundations of Computer Science (MFCS)*, Lecture Notes in Computer Science 6281, Springer, 2010, pp. 246–257.

23. Krishnendu Chatterjee, Thomas A. Henzinger, Barbara Jobstmann, and Rohit Singh, “Measuring and synthesizing systems in probabilistic environments,” *Proceedings of the 22nd International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 6174, Springer, 2010, pp. 380–395. Invited to a special issue of the *Journal of the ACM* for selected papers of CAV 10.
24. Roderick Bloem, Krishnendu Chatterjee, Karin Greimel, Thomas A. Henzinger, and Barbara Jobstmann, “Robustness in the presence of liveness,” *Proceedings of the 22nd International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 6174, Springer, 2010, pp. 410–424.
25. Krishnendu Chatterjee, Thomas A. Henzinger, Barbara Jobstmann, and Arjun Radhakrishna, “GIST: A solver for probabilistic games,” *Proceedings of the 22nd International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 6174, Springer, 2010, pp. 665–669.
26. Laurent Doyen, Thomas A. Henzinger, Axel Legay, and Dejan Ničković, “Robustness of sequential circuits,” *Proceedings of the Tenth International Conference on the Application of Concurrency to System Design (ACSD)*, IEEE Computer Society Press, 2010, pp. 77–84.
27. Dirk Beyer, Thomas A. Henzinger, Grégory Théoduloz, and Damien Zufferey, “Shape refinement through explicit heap analysis,” *Proceedings of the International Conference on Fundamental Approaches to Software Engineering (FASE)*, Lecture Notes in Computer Science 6013, Springer, 2010, pp. 263–277.
28. Thomas Wies, Damien Zufferey, and Thomas A. Henzinger, “Forward analysis of depth-bounded processes,” *Proceedings of the 13th International Conference on Foundations of Software Science and Computational Structures (FOSSACS)*, Lecture Notes in Computer Science 6014, Springer, 2010, pp. 94–108.
29. Rachid Guerraoui, Thomas A. Henzinger, Michal Kapalka, and Vasu Singh, “Transactions in the jungle,” *Proceedings of the 22nd Annual Symposium on Parallel Algorithms and Architectures (SPAA)*, ACM Press, 2010, pp. 263–272.
30. Thomas A. Henzinger, Anmol V. Singh, Vasu Singh, Thomas Wies, and Damien Zufferey, “FLEXPRICE: Flexible provisioning of resources in a cloud environment,” *Proceedings of the Third International Conference on Cloud Computing (CLOUD)*, IEEE Computer Society Press, 2010.
31. Thomas A. Henzinger, Thibaud B. Hottelier, Laura Kovács, and Andrei Voronkov, “Invariant and type inference for matrices,” *Proceedings of the Tenth International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI)*, Lecture Notes in Computer Science 5944, Springer, 2010, pp. 163–179.
32. Thomas A. Henzinger, Christoph M. Kirsch, Eduardo R.B. Marques, and Ana Sokolova, “Distributed, modular HTL,” *Proceedings of the 30th Annual Real-Time Systems Symposium (RTSS)*, IEEE Computer Society Press, 2009, pp. 171–180.
33. Roderick Bloem, Karin Greimel, Thomas A. Henzinger, and Barbara Jobstmann, “Synthesizing robust systems,” *Proceedings of the Ninth International Conference on Formal Methods in Computer-Aided Design (FMCAD)*, IEEE Computer Society Press, 2009, pp. 85–92.
34. Stavros Tripakis, Ben Lickly, Thomas A. Henzinger, and Edward A. Lee, “On relational interfaces,” *Proceedings of the Ninth Annual Conference on Embedded Software (EMSOFT)*, ACM Press, 2009, pp. 67–76.
35. Frédéric Didier, Thomas A. Henzinger, Maria Mateescu, and Verena Wolf, “Approximation of event probabilities in noisy cellular processes,” *Proceedings of the Seventh International Conference on Computational Methods in Systems Biology (CMSB)*, Lecture Notes in Bioinformatics 5688, Springer, 2009, pp. 173–188.

36. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “Expressiveness and closure properties for quantitative languages,” *Proceedings of the 24th Annual Symposium on Logic in Computer Science (LICS)*, IEEE Computer Society Press, 2009, pp. 199–208.
37. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “Probabilistic weighted automata,” *Proceedings of the 20th International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 5710, Springer, 2009, pp. 244–258.
38. Rachid Guerraoui, Thomas A. Henzinger, and Vasu Singh, “Software transactional memory on relaxed memory models,” *Proceedings of the 21st International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 5643, Springer, 2009, pp. 321–336.
39. Thomas A. Henzinger, Maria Mateescu, and Verena Wolf, “Sliding-window abstraction for infinite Markov chains,” *Proceedings of the 21st International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 5643, Springer, 2009, pp. 337–352.
40. Roderick Bloem, Krishnendu Chatterjee, Thomas A. Henzinger, and Barbara Jobstmann, “Better quality in synthesis through quantitative objectives,” *Proceedings of the 21st International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 5643, Springer, 2009, pp. 140–156.
41. Dietmar Berwanger, Krishnendu Chatterjee, Martin De Wulf, Laurent Doyen, and Thomas A. Henzinger, “ALPAGA: A tool for solving parity games with imperfect information,” *Proceedings of the 15th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, Lecture Notes in Computer Science 5505, Springer, 2009, pp. 58–61.
42. Krishnendu Chatterjee, Luca de Alfaro, and Thomas A. Henzinger, “Termination criteria for solving concurrent safety and reachability games,” *Proceedings of the 20th Annual Symposium on Discrete Algorithms (SODA)*, ACM Press, 2009, pp. 197–206.
43. Thomas A. Henzinger, Thibaud B. Hottelier, and Laura Kovács, “VALIGATOR: A verification tool with bound and invariant generation,” *Proceedings of the 15th International Conference on Logic for Programming, Artificial Intelligence, and Reasoning (LPAR)*, Lecture Notes in Artificial Intelligence 5330, Springer, 2008, pp. 333–342.
44. Rachid Guerraoui, Thomas A. Henzinger, and Vasu Singh, “Permissiveness in transactional memories,” *Proceedings of the 22nd International Symposium on Distributed Computing (DISC)*, Lecture Notes in Computer Science 5218, Springer, 2008, pp. 305–319.
45. Krishnendu Chatterjee, Thomas A. Henzinger, and Vinayak S. Prabhu, “Timed parity games: Complexity and robustness,” *Proceedings of the Sixth International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS)*, Lecture Notes in Computer Science 5215, Springer, 2008, pp. 124–140.
46. Laurent Doyen, Thomas A. Henzinger, Barbara Jobstmann, and Tatjana Petrov, “Interface theories with component reuse,” *Proceedings of the Eighth Annual Conference on Embedded Software (EMSOFT)*, ACM Press, 2008, pp. 79–88.
47. Dirk Beyer, Thomas A. Henzinger, and Grégory Théoduloz, “Program analysis with dynamic change of precision,” *Proceedings of the 23rd International Conference on Automated Software Engineering (ASE)*, ACM Press, 2008, pp. 29–38.
48. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger. “Quantitative languages,” *Proceedings of the 17th International Conference on Computer Science Logic (CSL)*, Lecture Notes in Computer Science 5213, Springer, 2008, pp. 385–400. Invited to a special issue of *Logical Methods in Computer Science* for selected papers of CSL 08.

49. Dietmar Berwanger, Krishnendu Chatterjee, Laurent Doyen, Thomas A. Henzinger, and Sangram Raje, “Strategy construction for parity games with imperfect information,” *Proceedings of the 19th International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 5201, Springer, 2008, pp. 325–339. Invited to a special issue of *Information and Computation* for selected papers of CONCUR 08.
50. Krishnendu Chatterjee, Thomas A. Henzinger, and Barbara Jobstmann, “Environment assumptions for synthesis,” *Proceedings of the 19th International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 5201, Springer, 2008, pp. 147–161.
51. Rachid Guerraoui, Thomas A. Henzinger, and Vasu Singh, “Completeness and nondeterminism in model checking transactional memories,” *Proceedings of the 19th International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 5201, Springer, 2008, pp. 21–35. Invited to a special issue of *Distributed Computing* for selected papers of CONCUR 08.
52. Jasmin Fisher, Thomas A. Henzinger, Maria Mateescu, and Nir Piterman, “Bounded asynchrony: Concurrency for modeling cell-cell interactions,” *Proceedings of the First International Workshop on Formal Methods in Systems Biology (FMSB)*, Lecture Notes in Bioinformatics 5054, Springer, 2008, pp. 17–32.
53. Rachid Guerraoui, Thomas A. Henzinger, Barbara Jobstmann, and Vasu Singh, “Model checking transactional memories,” *Proceedings of the International Conference on Programming Language Design and Implementation (PLDI)*, ACM Press, 2008, pp. 372–382.
54. Krishnendu Chatterjee, Arkadeb Ghosal, Thomas A. Henzinger, Daniel Iercan, Christoph M. Kirsch, Claudio Pinello, and Alberto L. Sangiovanni-Vincentelli, “Logical reliability of interacting real-time tasks,” *Proceedings of the International Conference on Design, Automation, and Test in Europe (DATE)*, IEEE Press, 2008, pp. 909–914.
55. Krishnendu Chatterjee, Thomas A. Henzinger, and Vinayak S. Prabhu, “Trading infinite memory for uniform randomness in timed games,” *Proceedings of the 11th International Workshop on Hybrid Systems: Computation and Control (HSCC)*, Lecture Notes in Computer Science 4981, Springer, 2008, pp. 87–100.
56. Krishnendu Chatterjee, Rupak Majumdar, and Thomas A. Henzinger, “Controller synthesis with budget constraints,” *Proceedings of the 11th International Workshop on Hybrid Systems: Computation and Control (HSCC)*, Lecture Notes in Computer Science 4981, Springer, 2008, pp. 72–86.
57. Krishnendu Chatterjee, Koushik Sen, and Thomas A. Henzinger, “Model checking omega-regular properties of interval Markov chains,” *Proceedings of the 11th International Conference on Foundations of Software Science and Computational Structures (FOSSACS)*, Lecture Notes in Computer Science 4962, Springer, 2008, pp. 302–317.
58. Ashutosh Gupta, Thomas A. Henzinger, Rupak Majumdar, Andrey Rybalchenko, and Ru-Gang Xu, “Proving non-termination,” *Proceedings of the 35th Annual Symposium on Principles of Programming Languages (POPL)*, ACM Press, 2008, pp. 147–158.
59. Dirk Beyer, Arindam Chakrabarti, Thomas A. Henzinger, and Sanjit A. Seshia, “An application of web-service interfaces,” *Proceedings of the International Conference on Web Services (ICWS)*, IEEE Computer Society Press, 2007, pp. 831–838.
60. Krishnendu Chatterjee, Thomas A. Henzinger, and Nir Piterman, “Strategy logic,” *Proceedings of the 18th International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 4703, Springer, 2007, pp. 59–73. Invited to a special issue of *Information and Computation* for selected papers of CONCUR 07.

61. Thomas Brihaye, Thomas A. Henzinger, Vinayak S. Prabhu, and Jean-François Raskin, “Minimum-time reachability in timed games,” *Proceedings of the 34th International Colloquium on Automata, Languages, and Programming (ICALP)*, Lecture Notes in Computer Science 4596, Springer, 2007, pp. 825–837.
62. Dirk Beyer, Thomas A. Henzinger, and Grégory Théoduloz, “Configurable software verification: Concretizing the convergence of model checking and program analysis,” *Proceedings of the 19th International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 4590, Springer, 2007, pp. 509–523. Invited to a special issue of *Formal Methods in System Design* for selected papers of CAV 07.
63. Dirk Beyer, Thomas A. Henzinger, Rupak Majumdar, and Andrey Rybalchenko, “Path invariants,” *Proceedings of the International Conference on Programming Language Design and Implementation (PLDI)*, ACM Press, 2007, pp. 300–309.
64. Krishnendu Chatterjee and Thomas A. Henzinger, “Assume-guarantee synthesis,” *Proceedings of the 13th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, Lecture Notes in Computer Science 4424, Springer, 2007, pp. 261–275.
65. Krishnendu Chatterjee, Thomas A. Henzinger, and Nir Piterman, “Generalized parity games,” *Proceedings of the 10th International Conference on Foundations of Software Science and Computation Structures (FOSSACS)*, Lecture Notes in Computer Science 4423, Springer, 2007, pp. 153–167.
66. Dirk Beyer, Thomas A. Henzinger, Rupak Majumdar, and Andrey Rybalchenko, “Invariant synthesis for combined theories,” *Proceedings of the Eighth International Conference on Verification, Model Checking, and Abstract Interpretation (VMCAI)*, Lecture Notes in Computer Science 4349, Springer, 2007, pp. 378–394.
67. Bhargav Gulavani, Thomas A. Henzinger, Yamini Kannan, Aditya Nori, and Sriram K. Rajamani, “SYNERGY: A new algorithm for property checking,” *Proceedings of the 14th Annual Symposium on Foundations of Software Engineering (FSE)*, ACM Press, 2006, pp. 117–127. Best paper award at FSE 06. Invited to a special issue of *IEEE Transactions on Software Engineering* for selected papers of FSE 06.
68. Arkadeb Ghosal, Thomas A. Henzinger, Daniel Iercan, Christoph M. Kirsch, and Alberto L. Sangiovanni-Vincentelli, “A hierarchical coordination language for interacting real-time tasks,” *Proceedings of the Sixth Annual Conference on Embedded Software (EMSOFT)*, ACM Press, 2006, pp. 132–141.
69. Krishnendu Chatterjee, Laurent Doyen, Thomas A. Henzinger, and Jean-François Raskin, “Algorithms for omega-regular games with imperfect information,” *Proceedings of the 15th International Conference on Computer Science Logic (CSL)*, Lecture Notes in Computer Science 4207, Springer, 2006, pp. 287–302. Invited to a special issue of *Logical Methods in Computer Science* for selected papers of CSL 06.
70. Thomas A. Henzinger and Nir Piterman, “Solving games without determinization,” *Proceedings of the 15th International Conference on Computer Science Logic (CSL)*, Lecture Notes in Computer Science 4207, Springer, 2006, pp. 395–410.
71. Krishnendu Chatterjee, Luca de Alfaro, Marco Faella, Thomas A. Henzinger, Rupak Majumdar, and Marielle Stoelinga, “Compositional quantitative reasoning,” *Proceedings of the Third Annual Conference on Quantitative Evaluation of Systems (QEST)*, IEEE Computer Society Press, 2006, pp. 179–188.
72. Krishnendu Chatterjee, Luca de Alfaro, and Thomas A. Henzinger, “Strategy improvement for concurrent reachability games,” *Proceedings of the Third Annual Conference on Quantitative Evaluation of Systems (QEST)*, IEEE Computer Society Press, 2006, pp. 291–300.

73. Martin de Wulf, Laurent Doyen, Thomas A. Henzinger, and Jean-François Raskin, “Antichains: A new algorithm for checking universality of finite automata,” *Proceedings of the 18th International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 4144, Springer, 2006, pp. 17–30.
74. Dirk Beyer, Thomas A. Henzinger, and Grégory Théoduloz, “Lazy shape analysis,” *Proceedings of the 18th International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 4144, Springer, 2006, pp. 532–546.
75. Krishnendu Chatterjee and Thomas A. Henzinger, “Strategy improvement for stochastic Rabin and Streett games,” *Proceedings of the 17th International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 4137, Springer, 2006, pp. 375–389.
76. Krishnendu Chatterjee and Thomas A. Henzinger, “Finitary winning in omega-regular games,” *Proceedings of the 12th International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, Lecture Notes in Computer Science 3920, Springer, 2006, pp. 257–271.
77. Thomas A. Henzinger and Slobodan Matic, “An interface algebra for real-time components,” *Proceedings of the 12th Annual Real-Time and Embedded Technology and Applications Symposium (RTAS)*, IEEE Computer Society Press, 2006, pp. 253–266.
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  180. Rajeev Alur and Thomas A. Henzinger, “Local liveness for compositional modeling of fair reactive systems,” *Proceedings of the Seventh International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 939, Springer, 1995, pp. 166–179.
  181. Thomas A. Henzinger and Pei-Hsin Ho, “Algorithmic analysis of nonlinear hybrid systems,” *Proceedings of the Seventh International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 939, Springer, 1995, pp. 225–238.
  182. Thomas A. Henzinger, Peter W. Kopke, Anuj Puri, and Pravin Varaiya, “What’s decidable about hybrid automata?,” *Proceedings of the 27th Annual Symposium on Theory of Computing (STOC)*, ACM Press, 1995, pp. 373–382. Invited to a special issue of the *Journal of Computer and System Sciences* for selected papers of STOC 95.
  183. Thomas A. Henzinger and Peter W. Kopke, “Verification methods for the divergent runs of clock systems,” *Proceedings of the Third International Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT)*, Lecture Notes in Computer Science 863, Springer, 1994, pp. 351–372.
  184. Arjun Kapur, Thomas A. Henzinger, Zohar Manna, and Amir Pnueli, “Proving safety properties of hybrid systems,” *Proceedings of the Third International Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT)*, Lecture Notes in Computer Science 863, Springer, 1994, pp. 431–454.
  185. Rajeev Alur, Costas Courcoubetis, and Thomas A. Henzinger, “The observational power of clocks,” *Proceedings of the Fifth International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 836, Springer, 1994, pp. 162–177. Invited to a special issue of the *Nordic Journal of Computing* for selected papers of CONCUR 94.
  186. Rajeev Alur and Thomas A. Henzinger, “Finitary fairness,” *Proceedings of the Ninth Annual Symposium on Logic in Computer Science (LICS)*, IEEE Computer Society Press, 1994, pp. 52–61.
  187. Rajeev Alur, Limor Fix, and Thomas A. Henzinger, “A determinizable class of timed automata,” *Proceedings of the Sixth International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 818, Springer, 1994, pp. 1–13.
  188. Rajeev Alur, Costas Courcoubetis, Thomas A. Henzinger, Pei-Hsin Ho, Xavier Nicollin, Alfredo Olivero, Joseph Sifakis, and Sergio Yovine, “The algorithmic analysis of hybrid systems,” *Proceedings of the 11th International Conference on Analysis and Optimization of Systems: Discrete-Event Systems (ICAOS)*, Lecture Notes in Control and Information Sciences 199, Springer, 1994, pp. 331–351. Solicited for a special session on hybrid systems at ICAOS 94.

189. Rajeev Alur, Thomas A. Henzinger, and Pei-Hsin Ho, “Automatic symbolic verification of embedded systems,” *Proceedings of the 14th Annual Real-Time Systems Symposium (RTSS)*, IEEE Computer Society Press, 1993, pp. 2–11.
190. Rajeev Alur, Costas Courcoubetis, and Thomas A. Henzinger, “Computing accumulated delays in real-time systems,” *Proceedings of the Fifth International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 697, Springer, 1993, pp. 181–193. Invited to a special issue of *Formal Methods in System Design* for selected papers of CAV 93.
191. Rajeev Alur, Thomas A. Henzinger, and Moshe Y. Vardi, “Parametric real-time reasoning,” *Proceedings of the 25th Annual Symposium on Theory of Computing (STOC)*, ACM Press, 1993, pp. 592–601.
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193. Rajeev Alur, Costas Courcoubetis, Thomas A. Henzinger, and Pei-Hsin Ho, “Hybrid automata: An algorithmic approach to the specification and verification of hybrid systems,” in *Hybrid Systems* (R.L. Grossman, A. Nerode, A.P. Ravn, and H. Rischel, eds.), Lecture Notes in Computer Science 736, Springer, 1993, pp. 209–229. Proceedings of the International Workshop on Hybrid Systems, Lyngby, Denmark, October 1992.
194. Rajeev Alur and Thomas A. Henzinger, “Back to the future: Towards a theory of timed regular languages,” *Proceedings of the 33rd Annual Symposium on Foundations of Computer Science (FOCS)*, IEEE Computer Society Press, 1992, pp. 177–186.
195. Thomas A. Henzinger, Zohar Manna, and Amir Pnueli, “What good are digital clocks?,” *Proceedings of the 19th International Colloquium on Automata, Languages, and Programming (ICALP)*, Lecture Notes in Computer Science 623, Springer, 1992, pp. 545–558.
196. Thomas A. Henzinger, Xavier Nicollin, Joseph Sifakis, and Sergio Yovine, “Symbolic model checking for real-time systems,” *Proceedings of the Seventh Annual Symposium on Logic in Computer Science (LICS)*, IEEE Computer Society Press, 1992, pp. 394–406. Invited to a special issue of *Information and Computation* for selected papers of LICS 92.
197. Rajeev Alur, Tomás Feder, and Thomas A. Henzinger, “The benefits of relaxing punctuality,” *Proceedings of the Tenth Annual Symposium on Principles of Distributed Computing (PODC)*, ACM Press, 1991, pp. 139–152.
198. Thomas A. Henzinger, Zohar Manna, and Amir Pnueli, “Temporal proof methodologies for real-time systems,” *Proceedings of the 18th Annual Symposium on Principles of Programming Languages (POPL)*, ACM Press, 1991, pp. 353–366. Reprinted in *Real-Time Systems: Abstractions, Languages, and Design Methodologies* (K.M. Kavi, ed.), IEEE Computer Society Press, 1992, pp. 145–158.
199. Thomas A. Henzinger, “Half-order modal logic: How to prove real-time properties,” *Proceedings of the Ninth Annual Symposium on Principles of Distributed Computing (PODC)*, ACM Press, 1990, pp. 281–296.
200. Thomas A. Henzinger, Zohar Manna, and Amir Pnueli, “An interleaving model for real time,” *Proceedings of the Fifth Jerusalem Conference on Information Technology (JCIT)*, IEEE Computer Society Press, 1990, pp. 717–730. Solicited for a special session on Reactive Systems at JCIT 90.
201. Rajeev Alur and Thomas A. Henzinger, “Real-Time logics: Complexity and expressiveness,” *Proceedings of the Fifth Annual Symposium on Logic in Computer Science (LICS)*, IEEE Computer Society

Press, 1990, pp. 390–401. Invited to a special issue of *Information and Computation* for selected papers of LICS 90. Reprinted in *Real-Time Systems: Abstractions, Languages, and Design Methodologies* (K.M. Kavi, ed.), IEEE Computer Society Press, 1992, pp. 159–170.

202. Rajeev Alur and Thomas A. Henzinger, “A really temporal logic,” *Proceedings of the 30th Annual Symposium on Foundations of Computer Science (FOCS)*, IEEE Computer Society Press, 1989, pp. 164–169.
203. Thomas A. Henzinger and Hubert Hofbauer, “PROOF PAD: An interactive proof generating system using natural deduction,” *Proceedings of the First Austrian Conference on Artificial Intelligence* (H. Trost and J. Retti, eds.), Informatik-Fachberichte 106, Springer, 1985, pp. 173–184.

### Refereed Journal Papers

1. Krishnendu Chatterjee, Thomas A. Henzinger, and Vinayak S. Prabhu, “Timed parity games: Complexity and robustness,” *Logical Methods in Computer Science*, in press.
2. Krishnendu Chatterjee and Thomas A. Henzinger, “A survey of stochastic omega-regular games,” *Journal of Computer and System Sciences*, in press. Special issue on *Games in Automated Verification*; invited contribution.
3. Arkadeb Ghosal, Daniel Iercan, Christoph M. Kirsch, Thomas A. Henzinger, and Alberto L. Sangiovanni-Vincentelli, “Separate compilation of hierarchical real-time programs into linear-bounded embedded machine code,” *Science of Computer Programming* 77:96–112, 2012. Special issue for selected papers of APGES 07; invited contribution.
4. Yashdeep Godhal, Krishnendu Chatterjee, and Thomas A. Henzinger, “Synthesis of AMBA AHB from formal specifications,” *Software Tools for Technology Transfer*, 2011.
5. Jasmin Fisher, David Harel, and Thomas A. Henzinger, “Biology as reactivity,” *Communications of the ACM* 54:72–82, 2011.
6. Stavros Tripakis, Ben Lickly, Thomas A. Henzinger, and Edward A. Lee, “A theory of synchronous relational interfaces,” *ACM Transactions on Programming Languages and Systems* 33(4), 2011.
7. Thomas A. Henzinger, Barbara Jobstmann, and Verena Wolf, “Formalisms for specifying Markovian population models,” *International Journal on Foundations of Computer Science* 22:823–841, 2011. Special issue for selected papers of RP 2009; invited contribution.
8. Krishnendu Chatterjee, Luca de Alfaro, and Thomas A. Henzinger, “Qualitative concurrent parity games,” *ACM Transactions on Computational Logic* 12(4), 2011.
9. Frédéric Didier, Thomas A. Henzinger, Maria Mateescu, and Verena Wolf, “Approximation of event probabilities in noisy cellular processes,” *Theoretical Computer Science* 412:2128–2141, 2011.
10. Maria Mateescu, Verena Wolf, Frédéric Didier, and Thomas A. Henzinger, “Fast adaptive uniformization of the chemical master equation,” *IET Systems Biology* 4:441–452, 2010.
11. Dietmar Berwanger, Krishnendu Chatterjee, Martin De Wulf, Laurent Doyen, and Thomas A. Henzinger, “Strategy construction for parity games with imperfect information,” *Information and Computation* 208:1206–1220, 2010. Special issue for selected papers of CONCUR 08; invited contribution.
12. Krishnendu Chatterjee, Thomas A. Henzinger, and Nir Piterman, “Strategy logic,” *Information and Computation* 208:677–693, 2010. Special issue for selected papers of CONCUR 07; invited contribution.
13. Rachid Guerraoui, Thomas A. Henzinger, and Vasu Singh, “Model checking transactional memories,” *Distributed Computing* 22:129–145, 2010.

14. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “Expressiveness and closure properties for quantitative languages,” *Logical Methods in Computer Science* 6(3), 2010. Special issue for selected papers of LICS 09; invited contribution.
15. Verena Wolf, Rushil Goel, Maria Mateescu, and Thomas A. Henzinger, “Solving the chemical master equation using sliding windows,” *BMC Systems Biology* 4:42, 2010.
16. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “Quantitative languages,” *ACM Transactions on Computational Logic* 11(4), 2010. Special issue for selected papers of CSL 08; invited contribution.
17. Krishnendu Chatterjee, Thomas A. Henzinger, and Florian Horn, “Finitary winning in omega-regular games,” *ACM Transactions on Computational Logic* 11(1), 2009.
18. Thomas A. Henzinger, “Two challenges in embedded systems design: Predictability and robustness,” *Philosophical Transactions of the Royal Society A* 366:3727–3736, 2008. Special issue on *Ubiquitous Computing*; invited contribution.
19. Krishnendu Chatterjee, Rupak Majumdar, and Thomas A. Henzinger, “Stochastic limit-average games are in EXPTIME,” *International Journal of Game Theory* 37:219–234, 2008.
20. Laurent Doyen, Thomas A. Henzinger, and Jean-François Raskin, “Equivalence of labeled Markov chains,” *International Journal of Foundations of Computer Science* 19:549–563, 2008. Special issue for selected papers of DLT 07; invited contribution.
21. Krishnendu Chatterjee and Thomas A. Henzinger, “Reduction of stochastic parity to stochastic mean-payoff games,” *Information Processing Letters* 106:1–7, 2008.
22. Jasmin Fisher and Thomas A. Henzinger, “Executable cell biology,” *Nature Biotechnology* 25:1239–1249, 2007. See also correspondence in *Nature Biotechnology* 26:737–9, 2008.
23. Thomas A. Henzinger and Joseph Sifakis, “The discipline of embedded systems design,” *IEEE Computer* 40(10):36–44, 2007. Cover feature; invited contribution.
24. Thomas A. Henzinger and Christoph M. Kirsch, “The Embedded Machine: Predictable, portable real-time code,” *ACM Transactions on Programming Languages and Systems* 29(6), 2007.
25. Krishnendu Chatterjee, Laurent Doyen, Thomas A. Henzinger, and Jean-François Raskin, “Algorithms for omega-regular games with imperfect information,” *Logical Methods in Computer Science* 3(3), 2007.
26. Luca de Alfaro, Thomas A. Henzinger, and Orna Kupferman, “Concurrent reachability games,” *Theoretical Computer Science* 386:188–217, 2007.
27. Dirk Beyer, Thomas A. Henzinger, Ranjit Jhala, and Rupak Majumdar, “The software model checker BLAST: Applications to software engineering,” *Software Tools for Technology Transfer* 9:505–526, 2007. Special issue for selected papers of FASE 05; invited contribution.
28. Jasmin Fisher, Nir Piterman, Alex Hajnal, and Thomas A. Henzinger, “Predictive modeling of signaling crosstalk during *C. elegans* vulval development,” *PLoS Computational Biology* 3(5):e92, 2007.
29. Marc A. Schaub, Thomas A. Henzinger, and Jasmin Fisher, “Qualitative networks: A symbolic approach to analyze biological signaling networks,” *BMC Systems Biology* 1:4, 2007.
30. Krishnendu Chatterjee, Thomas A. Henzinger, and Marcin Jurdziński, “Games with secure equilibria,” *Theoretical Computer Science* 365:67–82, 2006.

31. Thomas A. Henzinger, Orna Kupferman, and Rupak Majumdar, “On the universal and existential fragments of the mu-calculus,” *Theoretical Computer Science* 354:173–186, 2006. Special issue for selected papers of TACAS 03; invited contribution.
32. Luca de Alfaro, Marco Faella, Thomas A. Henzinger, Rupak Majumdar, and Marielle Stoelinga, “Model checking discounted temporal properties,” *Theoretical Computer Science* 345:139–170, 2005. Special issue for selected papers of TACAS 04; invited contribution.
33. Thomas A. Henzinger, Jean-François Raskin, and Rupak Majumdar, “A classification of symbolic transition systems,” *ACM Transactions on Computational Logic* 6:1–32, 2005.
34. Krishnendu Chatterjee, Di Ma, Rupak Majumdar, Tian Zhao, Thomas A. Henzinger, and Jens Palmberg, “Stack-size analysis for interrupt-driven programs,” *Information and Computation* 194:144–174, 2004.
35. Thomas A. Henzinger, Orna Kupferman, and Shaz Qadeer, “From *prehistoric* to *postmodern* symbolic model checking,” *Formal Methods in System Design* 23:303–327, 2003.
36. Thomas A. Henzinger, Benjamin Horowitz, and Christoph M. Kirsch, “GIOTTO: A time-triggered language for embedded programming,” *Proceedings of the IEEE* 91:84–99, 2003. Special issue on *Modeling and Design of Embedded Software*; invited contribution.
37. Thomas A. Henzinger, Christoph M. Kirsch, Marco A. Sanvido, and Wolfgang Pree, “From control models to real-time code using GIOTTO,” *IEEE Control Systems Magazine* 23(1):50–64, 2003. Special issue on *Software-Enabled Control*; invited contribution.
38. Rajeev Alur, Thomas A. Henzinger, and Orna Kupferman, “Alternating-time temporal logic,” *Journal of the ACM* 49:672–713, 2002.
39. Thomas A. Henzinger, Shaz Qadeer, Sriram K. Rajamani, and Serdar Tasiran, “An assume-guarantee rule for checking simulation,” *ACM Transactions on Programming Languages and Systems* 24:51–64, 2002.
40. Thomas A. Henzinger, Orna Kupferman, and Sriram K. Rajamani, “Fair simulation,” *Information and Computation* 173:64–81, 2002.
41. Jean-François Raskin, Pierre-Yves Schobbens, and Thomas A. Henzinger, “Axioms for real-time logics,” *Theoretical Computer Science* 274:151–182, 2002. Special issue for selected papers of CONCUR 98; invited contribution.
42. Rajeev Alur, Robert K. Brayton, Thomas A. Henzinger, Shaz Qadeer, and Sriram K. Rajamani, “Partial-order reduction in symbolic state-space exploration,” *Formal Methods in System Design* 18:97–116, 2001. Special issue for selected papers of CAV 97; invited contribution.
43. Rajeev Alur, Thomas A. Henzinger, Gerardo Lafferriere, and George J. Pappas, “Discrete abstractions of hybrid systems,” *Proceedings of the IEEE* 88:971–984, 2000. Special issue on *Hybrid Systems*; invited contribution.
44. Thomas A. Henzinger and Peter W. Kopke, “Discrete-time control for rectangular hybrid automata,” *Theoretical Computer Science* 221:369–392, 1999. Special issue for selected papers of ICALP 97; invited contribution.
45. Rajeev Alur and Thomas A. Henzinger, “Reactive modules,” *Formal Methods in System Design* 15:7–48, 1999. Special issue for selected papers of LICS 96; invited contribution.
46. Rajeev Alur, Limor Fix, and Thomas A. Henzinger, “Event-clock automata: A determinizable class of timed automata,” *Theoretical Computer Science* 211:253–273, 1999.

47. Thomas A. Henzinger, Pei-Hsin Ho, and Howard Wong-Toi, “Algorithmic analysis of nonlinear hybrid systems,” *IEEE Transactions on Automatic Control* 43:540–554, 1998. Special issue on *Hybrid Systems*; invited contribution.
48. Thomas A. Henzinger, Peter W. Kopke, Anuj Puri, and Pravin Varaiya, “What’s decidable about hybrid automata?,” *Journal of Computer and System Sciences* 57:94–124, 1998. Special issue for selected papers of STOC 95; invited contribution.
49. Rajeev Alur and Thomas A. Henzinger, “Finitary fairness,” *ACM Transactions on Programming Languages and Systems* 20:1171–1194, 1998.
50. Thomas A. Henzinger, Pei-Hsin Ho, and Howard Wong-Toi, “HYTECH: A model checker for hybrid systems,” *Software Tools for Technology Transfer* 1:110–122, 1997. Special issue on *Timed and Hybrid Systems*; invited contribution.
51. Rajeev Alur and Thomas A. Henzinger, “Real-time system = discrete system + clock variables,” *Software Tools for Technology Transfer* 1:86–109, 1997. Special issue on *Timed and Hybrid Systems*; invited contribution.
52. Rajeev Alur, Costas Courcoubetis, and Thomas A. Henzinger, “Computing accumulated delays in real-time systems,” *Formal Methods in System Design* 11:137–156, 1997. Special issue for selected papers of CAV 93; invited contribution.
53. Rajeev Alur, Thomas A. Henzinger, and Pei-Hsin Ho, “Automatic symbolic verification of embedded systems,” *IEEE Transactions on Software Engineering* 22:181–201, 1996.
54. Rajeev Alur, Tomás Feder, and Thomas A. Henzinger, “The benefits of relaxing punctuality,” *Journal of the ACM* 43:116–146, 1996.
55. Rajeev Alur, Costas Courcoubetis, Nicolas Halbwachs, Thomas A. Henzinger, Pei-Hsin Ho, Xavier Nicollin, Alfredo Olivero, Joseph Sifakis, and Sergio Yovine, “The algorithmic analysis of hybrid systems,” *Theoretical Computer Science* 138:3–34, 1995. Special issue on *Hybrid Systems*; invited contribution.
56. Thomas A. Henzinger, Zohar Manna, and Amir Pnueli, “Temporal proof methodologies for timed transition systems,” *Information and Computation* 112:273–337, 1994.
57. Thomas A. Henzinger, Xavier Nicollin, Joseph Sifakis, and Sergio Yovine, “Symbolic model checking for real-time systems,” *Information and Computation* 111:193–244, 1994. Special issue for selected papers of LICS 92; invited contribution.
58. Rajeev Alur and Thomas A. Henzinger, “A really temporal logic,” *Journal of the ACM* 41:181–204, 1994.
59. Rajeev Alur and Thomas A. Henzinger, “Real-time logics: Complexity and expressiveness,” *Information and Computation* 104:35–77, 1993. Special issue for selected papers of LICS 90; invited contribution.
60. Thomas A. Henzinger, “Sooner is safer than later,” *Information Processing Letters* 43:135–141, 1992.

### Invited Papers

1. Pavol Cerný and Thomas A. Henzinger, “From boolean to quantitative synthesis,” *Proceedings of the Eleventh Annual Conference on Embedded Software (EMSOFT)*, ACM Press, 2011, pp. 149–154.

2. Thomas A. Henzinger and Maria Mateescu, “Propagation models for computing biochemical reaction networks,” *Proceedings of the Ninth International Conference on Computational Methods in Systems Biology (CMSB)*, Lecture Notes in Bioinformatics, Springer, 2011. Invited to a special issue of the *IEEE/ACM Transactions on Computational Biology and Bioinformatics* for selected papers of CMSB 11.
3. Roderick Bloem, Krishnendu Chatterjee, Karin Greimel, Thomas A. Henzinger, and Barbara Jobstmann, “Specification-centered robustness,” *Proceedings of the Sixth Annual Symposium on Industrial Embedded Systems (SIES)*, IEEE Computer Society Press, 2011.
4. Thomas A. Henzinger, Anmol V. Singh, Vasu Singh, Thomas Wies, and Damien Zufferey, “A marketplace for cloud resources,” *Proceedings of the Tenth Annual Conference on Embedded Software (EMSOFT)*, ACM Press, 2010, pp. 1–8.
5. Krishnendu Chatterjee and Thomas A. Henzinger, “Probabilistic automata on infinite words: Decidability and undecidability results,” *Proceedings of the Eighth International Symposium on Automated Technology for Verification and Analysis (ATVA)*, Lecture Notes in Computer Science 6252, Springer, 2010, pp. 1–16.
6. Pavol Cerný, Thomas A. Henzinger, and Arjun Radhakrishna, “Quantitative simulation games,” in *Time for Verification: Essays in Memory of Amir Pnueli*, Lecture Notes in Computer Science 6200, Springer, 2010, pp. 42–60.
7. Thomas A. Henzinger, “From boolean to quantitative notions of correctness,” *Proceedings of the 37th Annual Symposium on Principles of Programming Languages (POPL)*, ACM Press, 2010, pp. 157–158.
8. Frédéric Didier, Thomas A. Henzinger, Maria Mateescu, and Verena Wolf, “Fast adaptive uniformization of the chemical master equation,” *Proceedings of the First International Workshop on High-Performance Computational Systems Biology (HIBI)*, IEEE Computer Society Press, 2009.
9. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “Alternating weighted automata,” *Proceedings of the 17th International Symposium on Fundamentals of Computation Theory (FCT)*, Lecture Notes in Computer Science 5699, Springer, 2009, pp. 3–13.
10. Thomas A. Henzinger, Barbara Jobstmann, and Verena Wolf, “Formalisms for specifying Markovian population models,” *Proceedings of the Third International Workshop on Reachability Problems (RP)*, Lecture Notes in Computer Science 5797, Springer, 2009, pp. 3–23.
11. Krishnendu Chatterjee, Thomas A. Henzinger, and Florian Horn, “Stochastic games with finitary objectives,” *Proceedings of the 34th International Symposium on Mathematical Foundations of Computer Science (MFCS)*, Lecture Notes in Computer Science 5734, Springer, 2009, pp. 34–54.
12. Krishnendu Chatterjee, Laurent Doyen, and Thomas A. Henzinger, “A survey of stochastic games with limsup and liminf objectives,” *Proceedings of the 36th International Colloquium on Automata, Languages, and Programming (ICALP)*, Lecture Notes in Computer Science 5556, Part II, Springer, 2009, pp. 1–15.
13. Krishnendu Chatterjee and Thomas A. Henzinger, “Probabilistic systems with limsup and liminf objectives,” *Proceedings of the First International Conference on Infinity in Logic and Computation (ILC)*, Lecture Notes in Artificial Intelligence 5489, Springer, 2009, pp. 32–45.
14. Krishnendu Chatterjee and Thomas A. Henzinger, “Value iteration,” in *25 Years of Model Checking*, Lecture Notes in Computer Science 5000, Springer, 2008, pp. 107–138.
15. Thomas A. Henzinger, “Quantitative generalizations of languages,” *Proceedings of the 11th International Conference on Developments in Language Theory (DLT)*, Lecture Notes in Computer Science 4588, Springer, 2007, pp. 20–22. Keynote lecture at DLT 07.

16. Dirk Beyer, Thomas A. Henzinger, and Vasu Singh, “Algorithms for interface synthesis,” *Proceedings of the 19th International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 4590, Springer, 2007, pp. 4–19. Invited tutorial at CAV 07.
17. Roman Manevich, John Field, Thomas A. Henzinger, Ganesan Ramalingam, and Mooly Sagiv, “Abstract counterexample-based refinement for powerset domains,” in *Program Analysis and Compilation: Theory and Practice*, Lecture Notes in Computer Science 4444, Springer, 2007, pp. 273–292. Invited contribution.
18. Thomas A. Henzinger, “Games, time, and probability: Graph models for system design and analysis,” *Proceedings of the 33rd International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM)*, Lecture Notes in Computer Science 4362, Springer, 2007, pp. 103–110. Invited lecture at SOFSEM 07.
19. Jasmin Fisher and Thomas A. Henzinger, “Executable biology,” *Proceedings of the Winter Simulation Conference (WSC)*, IEEE Computer Society Press, 2006, pp. 1675–1682. Invited lecture at WSC 06.
20. Thomas A. Henzinger and Vinayak S. Prabhu, “Timed alternating-time temporal logic,” *Proceedings of the Fourth International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS)*, Lecture Notes in Computer Science 4202, Springer, 2006, pp. 1–17. Keynote lecture at FORMATS 06.
21. Thomas A. Henzinger and Joseph Sifakis, “The embedded systems design challenge,” *Proceedings of the 14th International Symposium on Formal Methods (FM)*, Lecture Notes in Computer Science 4085, Springer, 2006, pp. 1–15. Keynote lecture at FM 06.
22. Krishnendu Chatterjee and Thomas A. Henzinger, “Semiperfect-information games,” *Proceedings of the 25th International Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS)*, Lecture Notes in Computer Science 3821, Springer, 2005, pp. 1–18. Keynote lecture at FSTTCS 05.
23. Luca de Alfaro and Thomas A. Henzinger, “Interface-based Design,” in *Engineering Theories of Software-intensive Systems* (M. Broy, J. Grünbauer, D. Harel, and C.A.R. Hoare, eds.), NATO Science Series: Mathematics, Physics, and Chemistry, Vol. 195, Springer, 2005, pp. 83–104. Invited lecture series at the NATO International Summer School on Engineering Theories for Software-intensive Systems, Marktoberdorf, Germany, August 2004.
24. Thomas A. Henzinger, Ranjit Jhala, and Rupak Majumdar, “The BLAST software verification system,” *Proceedings of the 12th International Workshop on Model Checking of Software (SPIN)*, Lecture Notes in Computer Science 3639, Springer, 2005, pp. 25–26. Invited tutorial at SPIN 05.
25. Thomas A. Henzinger, “Games in system design and verification,” *Proceedings of the Tenth International Conference on Theoretical Aspects of Rationality and Knowledge (TARK)*, 2005, pp. 1–4. Keynote lecture at TARK 05.
26. Dirk Beyer, Thomas A. Henzinger, Ranjit Jhala, and Rupak Majumdar, “Checking memory safety with BLAST,” *Proceedings of the International Conference on Fundamental Approaches to Software Engineering (FASE)*, Lecture Notes in Computer Science 3442, Springer, 2005, pp. 2–18. Keynote lecture at FASE 05. Invited to a special issue of *Software Tools for Technology Transfer* for selected papers of FASE 05.
27. Krishnendu Chatterjee, Luca de Alfaro, and Thomas A. Henzinger, “Trading memory for randomness,” *Proceedings of the First Annual Conference on Quantitative Evaluation of Systems (QEST)*, IEEE Computer Society Press, 2004, pp. 206–217. Keynote lecture at QEST 04.

28. Dirk Beyer, Adam Chlipala, Thomas A. Henzinger, Ranjit Jhala, and Rupak Majumdar, “The BLAST query language for software verification,” *Proceedings of the 11th International Static Analysis Symposium (SAS)*, Lecture Notes in Computer Science 3148, Springer, 2004, pp. 2–18. Keynote lecture at SAS 04.
29. Thomas A. Henzinger, “Embedded software: Better models, better code,” *Proceedings of the 25th International Conference on Applications and Theory of Petri Nets (ATPN)*, Lecture Notes in Computer Science 3099, Springer, 2004, pp. 35–36. Keynote lecture at ATPN 04.
30. Thomas A. Henzinger, “Rich interfaces for software modules,” *Proceedings of the 18th European Conference on Object-Oriented Programming (ECOOP)*, Lecture Notes in Computer Science 3086, Springer, 2004, pp. 517–518. Keynote lecture at ECOOP 04.
31. Thomas A. Henzinger, Ranjit Jhala, Rupak Majumdar, and Marco A.A. Sanvido, “Extreme model checking,” in *Verification: Theory and Practice*, Lecture Notes in Computer Science 2772, Springer, 2004, pp. 332–358. Invited contribution.
32. Thomas A. Henzinger, “Model checking: From hardware to software,” *Proceedings of the First Asian Symposium on Programming Languages and Systems (APLAS)*, Lecture Notes in Computer Science 2895, Springer, 2003, pp. 176–177. Keynote lecture at APLAS 03.
33. Thomas A. Henzinger, “Automata for specifying component interfaces,” *Proceedings of the Eighth International Conference on Implementation and Application of Automata (CIAA)*, Lecture Notes in Computer Science 2759, Springer, 2003, pp. 1–2. Keynote lecture at CIAA 03.
34. Thomas A. Henzinger, Benjamin Horowitz, and Christoph M. Kirsch, “Embedded control systems development with GIOTTO,” in *Software-Enabled Control: Information Technology for Dynamical Systems* (T. Samad and G. Balas, eds.), IEEE Press and Wiley-Interscience, 2003, pp. 123–146. Invited contribution.
35. Thomas A. Henzinger, “The symbolic approach to hybrid systems,” *Proceedings of the 14th International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 2404, Springer, 2002, page 57. Invited tutorial at CAV 02.
36. Thomas A. Henzinger, “From models to code: The missing link in embedded software,” *Proceedings of the Fifth International Workshop on Hybrid Systems: Computation and Control (HSCC)*, Lecture Notes in Computer Science 2289, Springer, 2002, pp. 5–6. Keynote lecture at HSCC 02.
37. Thomas A. Henzinger, Benjamin Horowitz, and Christoph M. Kirsch, “GIOTTO: A time-triggered language for embedded programming,” *Proceedings of the First International Workshop on Embedded Software (EMSOFT)*, Lecture Notes in Computer Science 2211, Springer, 2001, pp. 166–184. Invited lecture at EMSOFT 01.
38. Luca de Alfaro and Thomas A. Henzinger, “Interface theories for component-based design,” *Proceedings of the First International Workshop on Embedded Software (EMSOFT)*, Lecture Notes in Computer Science 2211, Springer, 2001, pp. 148–165. Invited lecture at EMSOFT 01.
39. Alberto L. Sangiovanni-Vincentelli, Thomas A. Henzinger, Bruce H. Krogh, Oded Maler, Manfred Morari, Costas C. Pantelides, George J. Pappas, Tunc Simsek, Janos Sztipanovits, and Stavros Tripakis, “Hybrid systems applications: An oxymoron?,” *Proceedings of the Fifth International Workshop on Hybrid Systems: Computation and Control (HSCC)*, Lecture Notes in Computer Science 2034, Springer, 2001, pp. 5–6. Panel statement at HSCC 01.
40. Thomas A. Henzinger, Shaz Qadeer, and Sriram K. Rajamani, “Decomposing refinement proofs using assume-guarantee reasoning,” *Proceedings of the International Conference on Computer-Aided Design (ICCAD)*, IEEE Computer Society Press, 2000, pp. 245–252. Invited tutorial at ICCAD 00.

41. Thomas A. Henzinger, “MASACCIO: A formal model for embedded components,” *Proceedings of the First IFIP International Conference on Theoretical Computer Science (TCS)*, Lecture Notes in Computer Science 1872, Springer, 2000, pp. 549–563. Invited lecture at TCS 00.
42. Thomas A. Henzinger and Rupak Majumdar, “A classification of symbolic transition systems,” *Proceedings of the 17th International Conference on Theoretical Aspects of Computer Science (STACS)*, Lecture Notes in Computer Science 1770, Springer, 2000, pp. 13–34. Keynote lecture at STACS 00.
43. Thomas A. Henzinger, “The theory of hybrid automata,” in *Verification of Digital and Hybrid Systems* (M.K. Inan and R.P. Kurshan, eds.), NATO ASI Series F: Computer and Systems Sciences, Vol. 170, Springer, 2000, pp. 265–292. Invited lecture series at the NATO-ASI International Summer School on the Verification of Digital and Hybrid Systems, Antalya, Turkey, June 1997.
44. Thomas A. Henzinger, “It’s about time: Real-time logics reviewed,” *Proceedings of the Ninth International Conference on Concurrency Theory (CONCUR)*, Lecture Notes in Computer Science 1466, Springer, 1998, pp. 439–454. Keynote lecture at CONCUR 98.
45. Rajeev Alur, Thomas A. Henzinger, and Orna Kupferman, “Alternating-time temporal logic,” in *Compositionality: The Significant Difference* (W.-P. de Roever, H. Langmaack, and A. Pnueli, eds.), Lecture Notes in Computer Science 1536, Springer, 1998, pp. 23–60. Invited lecture at the International Symposium on Compositionality, Bad Malente-Gremsmühlen, Germany, September 1997.
46. Thomas A. Henzinger, “Model checking game properties of multi-agent systems,” *Proceedings of the 25th International Colloquium on Automata, Languages, and Programming (ICALP)*, Lecture Notes in Computer Science 1443, Springer, 1998, page 543. Keynote lecture at ICALP 98.
47. Thomas A. Henzinger, “The theory of hybrid automata,” *Proceedings of the 11th Annual Symposium on Logic in Computer Science (LICS)*, IEEE Computer Society Press, 1996, pp. 278–292. Invited tutorial at LICS 96.
48. Thomas A. Henzinger, “Some myths about formal verification,” *ACM Computing Surveys* 28(4), 1996, page 119. Invited contribution.
49. Rajeev Alur and Thomas A. Henzinger, “Real-time system = discrete system + clock variables,” in *Theories and Experiences for Real-Time System Development* (T. Rus and C. Rattray, eds.), AMAST Series in Computing Vol. 2, World Scientific, 1994, pp. 1–29. Invited lecture at the First AMAST Workshop on Real-Time Systems (ARTS), Iowa City, Iowa, November 1993.
50. Thomas A. Henzinger, Zohar Manna, and Amir Pnueli, “Timed transition systems,” in *Real Time: Theory in Practice* (J.W. de Bakker, C. Huizing, W.-P. de Roever, and G. Rozenberg, eds.), Lecture Notes in Computer Science 600, Springer, 1992, pp. 226–251. Invited lecture at the REX Workshop on Real-Time Systems (REX), Mook, The Netherlands, June 1991.
51. Rajeev Alur and Thomas A. Henzinger, “Logics and models of real time: A survey,” in *Real Time: Theory in Practice* (J.W. de Bakker, C. Huizing, W.-P. de Roever, and G. Rozenberg, eds.), Lecture Notes in Computer Science 600, Springer, 1992, pp. 74–106. Invited contribution.
52. Rajeev Alur and Thomas A. Henzinger, “Time for logic,” *SIGACT News* 22(3), 1991, pp. 6–12. Invited logic column.

### Workshop and Conference Abstracts

1. Pavol Cerný, Thomas A. Henzinger, and Arjun Radhakrishna, “Quantitative simulation games,” Workshop on Games and Probabilistic Models in Formal Verification, Brno, Czech Republic, August 2010.

2. Thomas A. Henzinger, Anmol V. Singh, Vasu Singh, Thomas Wies, and Damien Zufferey, “EC2 on EC2,” Workshop on Exploiting Concurrency Efficiently and Correctly (EC2), Edinburgh, United Kingdom, July 2010.
3. Frédéric Didier, Thomas A. Henzinger, Maria Mateescu, and Verena Wolf, “Solving the chemical master equation using creeping windows,” Third Annual Q-BIO Conference on Cellular Information Processing, Santa Fe, New Mexico, August 2009. Invited lecture.
4. Roderick Bloem, Karin Greimel, Thomas A. Henzinger, and Barbara Jobstmann, “Synthesizing robust systems,” Workshop on Games for Design, Verification, and Synthesis (GASICS), Grenoble, France, June 2009.
5. Rachid Guerraoui, Thomas A. Henzinger, Michal Kapalka, and Vasu Singh, “Generalizing the correctness of transactional memory,” Workshop on Exploiting Concurrency Efficiently and Correctly (EC2), Grenoble, France, June 2009.
6. Rachid Guerraoui, Thomas A. Henzinger, Barbara Jobstmann, and Vasu Singh, “Model checking transactional memories,” Workshop on Exploiting Concurrency Efficiently and Correctly (EC2), Grenoble, France, June 2009.
7. Verena Wolf, Rushil Goel, Maria Mateescu, and Thomas A. Henzinger, “Solving the chemical master equation using sliding windows,” Eighth International Conference on Information Processing in Cells and Tissues (IPCAT), Ascona, Switzerland, April 2009.
8. Marc Schaub, April Bezdek, Thomas A. Henzinger, Freddy Radtke, and Jasmin Fisher, “Qualitative crosstalk analysis of Wnt and Notch signaling in mammalian skin,” Third Annual RECOMB Satellite Conference on Systems Biology, San Diego, California, December 2007.
9. Thomas A. Henzinger and Slobodan Matic, “Interfaces for real-time components,” Sixth International Symposium on Formal Methods for Components and Objects (FMCO), Amsterdam, The Netherlands, October 2007. Invited lecture.
10. Jasmin Fisher, Nir Piterman, Alex Hajnal, and Thomas A. Henzinger, “Computational modeling shedding light on development,” 15th Annual International Conference on Intelligent Systems for Molecular Biology (ISMB) and Sixth European Conference on Computational Biology (ECCB), Vienna, Austria, July 2007.
11. Jasmin Fisher, Nir Piterman, Alex Hajnal, and Thomas A. Henzinger, “Predictive modeling of signaling crosstalk during *C. elegans* vulval development,” 16th International *C. elegans* Meeting, Los Angeles, California, June 2007.
12. Marc Schaub, Thomas A. Henzinger, and Jasmin Fisher, “Qualitative networks: A symbolic approach to analyze biological signaling networks,” Second Annual RECOMB Satellite Conference on Systems Biology, San Diego, California, December 2006.
13. Jasmin Fisher, Nir Piterman, and Thomas A. Henzinger, “Computational modeling and analysis of *C. elegans* vulval development,” European Worm Meeting, Hersonissos, Greece, April 2006.

## Editor

1. Edmund M. Clarke, Thomas A. Henzinger, and Helmut Veith, editors, *Handbook of Model Checking*, Springer, to appear.
2. Krishnendu Chatterjee and Thomas A. Henzinger, editors, *Proceedings of the Eighth International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS)*, Lecture Notes in Computer Science 6246, Springer, 2010.

3. Jacques Duparc and Thomas A. Henzinger, editors, *Proceedings of the 21st International Conference on Computer Science Logic (CSL)*, Lecture Notes in Computer Science 4646, Springer, 2007.
4. Thomas A. Henzinger and Christoph M. Kirsch, editors, *Proceedings of the First International Workshop on Embedded Software (EMSOFT)*, Lecture Notes in Computer Science 2211, Springer, 2001.
5. Rajeev Alur and Thomas A. Henzinger, editors, *Information and Computation* 164(2), 2001. Special issue for selected papers of LICS 96.
6. Rajeev Alur and Thomas A. Henzinger, editors, *Formal Methods in System Design* 15(1), 1999. Special issue for selected papers of LICS 96.
7. Rajeev Alur and Thomas A. Henzinger, editors, *Formal Methods in System Design* 14(3), 1998. Special issue for selected papers of CAV 96.
8. Thomas A. Henzinger and Shankar Sastry, editors, *Proceedings of the First International Workshop on Hybrid Systems: Computation and Control (HSCC)*, Lecture Notes in Computer Science 1386, Springer, 1998.
9. Rajeev Alur and Thomas A. Henzinger, editors, *Proceedings of the Eighth International Conference on Computer-Aided Verification (CAV)*, Lecture Notes in Computer Science 1102, Springer, 1996.
10. Rajeev Alur, Thomas A. Henzinger, and Eduardo D. Sontag, editors, *Hybrid Systems III: Verification and Control*, Lecture Notes in Computer Science 1066, Springer, 1996. Proceedings of the International Workshop on Hybrid Systems, New Brunswick, New Jersey, October 1995.

### Other Publications

1. Thomas A. Henzinger, “Growing up,” Foreword for *Annual Report 2010*, IST Austria, 2011, page 1.
2. Thomas A. Henzinger, “An ambitious experiment,” Foreword for *From Vision to Reality: Annual Report 2009*, IST Austria, 2010, page 1.
3. Randal E. Bryant, Orna Grumberg, Thomas A. Henzinger, and Moshe Y. Vardi, “The 2008 CAV Award citation,” *Formal Methods in System Design* 35:4–5, 2009.
4. Thomas A. Henzinger, Foreword for *Systems and Software Verification* by B. Berard, M. Bidoit, A. Finkel, F. Laroussinie, A. Petit, L. Petrucci, and P. Schnoebelen, Springer, 2001, page v.
5. Thomas A. Henzinger, Book Review for *Verifying Temporal Properties of Systems* by J.C. Bradfield, *SIGACT News* 24(1):27–28, 1993.
6. Edward Chang and Thomas A. Henzinger, Solution Manual for *The Deductive Foundations of Computer Programming* by Z. Manna and R. Waldinger, Addison-Wesley, 1992, 350 pages.
7. Thomas A. Henzinger, Solution Manual for *The Logical Basis for Computer Programming, Volume 2* by Z. Manna and R. Waldinger, Addison-Wesley, 1990, 293 pages.

### Technical Reports

This list does not include reports whose titles coincide with publications listed in the previous categories.

1. Krishnendu Chatterjee, Thomas A. Henzinger, and Mathieu Tracol, “Decidability frontier for probabilistic automata on infinite words,” *Computing Research Repository (CoRR)* abs/1104.0127, 2011.
2. Krishnendu Chatterjee, Luca de Alfaro, and Thomas A. Henzinger, “Strategy improvement for concurrent safety games,” *Computing Research Repository (CoRR)* abs/0804.4530, 2008.

3. Arkadeb Ghosal, Daniel Iercan, Christoph M. Kirsch, Thomas A. Henzinger, and Alberto L. Sangiovanni-Vincentelli, "Separate compilation of hierarchical real-time programs into linear-bounded embedded machine code," *Proceedings of the International Workshop on Automatic Program Generation for Embedded Systems (APGES)*, 2007.
4. Krishnendu Chatterjee, Thomas A. Henzinger, and Nir Piterman, "Algorithms for Büchi games," *Proceedings of the Third International Workshop on Games in Design and Verification (GDV)*, 2006. Also *Computing Research Repository (CoRR)* abs/0805.2620, 2008.
5. Dirk Beyer, Arindam Chakrabarti, and Thomas A. Henzinger, "An interface formalism for web services," *Proceedings of the First International Workshop on Foundations of Interface Technologies (FIT)*, 2005.
6. Thomas A. Henzinger, "The logical execution time assumption," *Proceedings of the Workshop on Software Engineering for Embedded Systems* (M. Dwyer, B. Krogh, and I. Lee, eds.), University of Illinois, Chicago, September 2003. Invited lecture.
7. Thomas A. Henzinger, "Logics for reasoning about real-time computation," *Volume of Abstracts of the 11th International Congress of Logic, Methodology, and Philosophy of Science*, International Union of History and Philosophy of Science, Cracow, August 1999. Invited lecture.
8. Thomas A. Henzinger, "Reactive and hybrid systems," in *Fourth Biennial Report* (K. Mehlhorn, ed.), Max-Planck Institute for Computer Science, Saarbrücken, June 1999. Invited contribution.
9. Thomas A. Henzinger, Benjamin Horowitz, and Rupak Majumdar, "Interval-numerical methods for hybrid-systems analysis," *Proceedings of the AAAI Spring Symposium on Hybrid Systems and Artificial Intelligence* (G. Biswas and S. McIlraith, eds.), Technical Report SS-99-05, AAAI Press, March 1999. Keynote lecture.
10. Thomas A. Henzinger, "Computer-Aided Verification of Embedded Systems," *Proceedings of the 15th IFIP World Computer Congress* (K. Mehlhorn, ed.), Technical Report 117, Austrian Computer Society, August 1998. Invited lecture.
11. Thomas A. Henzinger and Peter W. Kopke, *Hybrid Automata with Finite Mutual Simulations*, Technical Report CSD-TR-95-1497, Cornell University, March 1995.
12. Thomas A. Henzinger and Peter W. Kopke, *Undecidability Results for Hybrid Systems*, Technical Report CSD-TR-95-1483, Cornell University, February 1995. Invited lecture at the International Workshop on Hybrid Systems and Autonomous Control, Ithaca, New York, October 1994.
13. Thomas A. Henzinger, Anuj Puri, and Pravin Varaiya, *Clock Transformation of Hybrid Automata with Rectangular Differential Inclusions*, Technical Report, University of California, Berkeley, October 1994. Invited lecture at the International Workshop on Hybrid Systems and Autonomous Control, Ithaca, New York, October 1994.
14. Thomas A. Henzinger and Pei-Hsin Ho, *Model-checking Strategies for Linear Hybrid Systems*, Technical Report CSD-TR-94-1437, Cornell University, July 1994. Invited lecture at the Seventh International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems (IEA/AIE), Austin, Texas, May 1994.
15. Thomas A. Henzinger, *The Temporal Specification and Verification of Real-Time Systems*, Ph.D. Thesis (Zohar Manna, advisor), Technical Report STAN-CS-91-1380, Stanford University, August 1991. Nominated for the ACM Best Dissertation Award by Stanford University.
16. Thomas A. Henzinger, "When eventually isn't good enough," *Proceedings of the 23rd Annual Meeting of the Stanford Computer Forum* (J.D. Ullman and J. Hennessy, eds.), Technical Report, Stanford University, February 1991.

17. Thomas A. Henzinger, “The temporal specification and verification of real-time systems,” *Proceedings of the Berkeley Workshop on Temporal and Real-Time Specification* (P.B. Ladkin and F.H. Vogt, eds.), Technical Report TR-90-060, International Computer Science Institute, Berkeley, August 1990. Invited lecture.
18. Thomas A. Henzinger, “A temporal logic for real time,” *Proceedings of the 22nd Annual Meeting of the Stanford Computer Forum* (N. Nilsson and J. Hennessy, eds.), Technical Report, Stanford University, February 1990.
19. Thomas A. Henzinger, *Denotational Equivalence of Goal-driven and Data-driven Interpretation of Applicative Programs*, M.S. Thesis (Thomas J. Myers, advisor), Technical Report CIS-87-05, University of Delaware, August 1986. Extended version available as Technical Report RISC-86-16.0, Kepler University, December 1986.
20. Thomas A. Henzinger, *Resolution: A Special Case of the Manna-Waldinger Relation Replacement Rule*, Technical Report CAMP-85-21.0, Kepler University, July 1985.

## Lectures

### Invited Lectures at Conferences

1. *From Boolean to Quantitative Synthesis*, invited lecture, Eleventh Annual Conference on Embedded Software (EMSOFT), Taipei, Taiwan, October 2011.
2. *Propagation Models for Computing Biochemical Reaction Networks*, keynote lecture, Ninth International Conference on Computational Methods in Systems Biology (CMSB), Paris, France, September 2011.
3. *Ten Years of Interface Automata*, ACM SIGSOFT Impact Paper Award Lecture, 19th Annual Symposium on Foundations of Software Engineering (FSE), Szeged, Hungary, September 2001.
4. *Applications of Games in Quantitative Verification and Synthesis*, invited tutorial, Annual GAMES Workshop, Paris, France, September 2011.
5. *Computational Science versus Computer Science*, keynote lecture, Ninth Basel Computational Biology Conference (BC2), Basel, Switzerland, June 2011.
6. *Syntax Matters*, invited lecture, Workshop on Systems Biology, Grenoble, France, May 2011.
7. *Quantitative Reactive Models*, invited lecture, Workshop on Synthesis, Verification, and Analysis of Rich Models (SVARM), Saarbrücken, Germany, April 2011.
8. *Formal Methods for Composing Systems*, invited lecture, Design Automation and Test in Europe (DATE), Grenoble, France, March 2011.
9. *Weighted Automata on Infinite Words*, keynote lecture, Highlights of AutomathA Conference, Vienna, Austria, November 2010.
10. *A Marketplace for Cloud Resources*, keynote lecture, Embedded Systems Week, Scottsdale, Arizona, October 2010.
11. *Beyond Finite Automata*, invited lecture, Eighth International Symposium on Automated Technology for Verification and Analysis (ATVA), Singapore, September 2010.
12. *Interface-based Design and Verification*, invited tutorial, Eighth International Symposium on Automated Technology for Verification and Analysis (ATVA), Singapore, September 2010.

13. *The Quantitative Agenda in System Analysis*, invited lecture, First International Workshop on Logics for System Analysis (LfSA), Edinburgh, United Kingdom, July 2010.
14. *From Boolean to Quantitative Theories of Reactive Systems*, invited lecture, Third International Workshop on Interaction and Concurrency Experiences (ICE), Amsterdam, The Netherlands, June 2010.
15. *Quantitative Modeling and Verification*, invited lecture, Amir Pnueli Memorial Symposium, New York, New York, May 2010.
16. *From Boolean to Quantitative Notions of Correctness*, invited lecture, 37th Annual Symposium on Principles of Programming Languages (POPL), Madrid, Spain, January 2010.
17. *Fast Adaptive Uniformization*, invited lecture, First International Workshop on High-Performance Computational Systems Biology (HiBi), Trento, Italy, October 2009.
18. *From Boolean to Quantitative System Specifications*, invited lecture, Fourth International Workshop on Foundations of Component-based Design (WFCD), Grenoble, France, October 2008.
19. *Reachability Analysis of Markovian Population Models*, invited lecture, Third International Workshop on Reachability Problems (RP), Paris, France, September 2009.
20. *Alternating Weighted Automata*, invited lecture, 17th International Symposium on Fundamentals of Computation Theory (FCT), Wroclaw, Poland, September 2009.
21. *Stochastic Games with Limsup and Liminf Objectives*, invited lecture, 36th International Colloquium on Automata, Languages, and Programming (ICALP), Rhodes, Greece, July 2009.
22. *From Boolean to Quantitative System Specifications*, keynote lecture, Workshop on Quantitative Logics (QuantLog), Rhodes, Greece, July 2009.
23. *From Boolean to Quantitative System Specifications*, keynote lecture, Workshop on Quantitative Analysis of Software (QA), Grenoble, France, June 2009.
24. *Quantitative Synthesis*, invited lecture, Workshop on Practical Synthesis for Concurrent Systems (PSY), Grenoble, France, June 2009.
25. *IST Austria: Building a World-Class Institute for Basic Research*, keynote lecture, Campus Opening of IST Austria, Klosterneuburg, Austria, June 2009.
26. *Designing Predictable and Robust Systems*, invited lecture, Third International Workshop on Foundations of Component-based Design (WFCD), Atlanta, Georgia, October 2008.
27. *Games in System Design and Verification*, keynote lecture, Eighth International Conference on Logic and the Foundations of Game and Decision Theory (LOFT), Amsterdam, The Netherlands, July 2008.
28. *Grand Challenges for Real-Time Systems*, keynote lecture, 20th Euromicro Conference on Real-Time Systems (ECRTS), Prague, Czech Republic, July 2008.
29. *Challenges in Embedded Systems Design: Predictability and Robustness*, invited lecture, Royal Society Meeting: From Computers to Ubiquitous Computing, London, United Kingdom, March 2008.
30. *Three Sources of Infinity in Computation: Nontermination, Real Time, and Probabilistic Choice*, keynote lecture, First International Conference on Infinity in Logic and Computation (ILC), Cape Town, South Africa, November 2007.
31. *Quantitative Generalizations of Languages*, keynote lecture, 11th International Conference on Developments in Language Theory (DLT), Turku, Finland, July 2007.

32. *Modeling, Verification, and Synthesis of Component Interfaces*, invited tutorial, 19th International Conference on Computer-Aided Verification (CAV), Berlin, Germany, July 2007.
33. *The Embedded Systems Design Challenge*, keynote lecture, 12th International Workshop on Formal Methods for Industrial-Critical Systems (FMICS), Berlin, Germany, July 2007.
34. *Path Invariants*, invited lecture, International Symposium on Automatic Heap Analysis (AHA), Berlin, Germany, July 2007.
35. *Fine-Tuning the Dial between Model Checking and Program Analysis*, invited lecture, Third Alpine Verification Meeting, Aussois, France, April 2007.
36. *Games, Time, and Probability: Graph Models for System Design and Analysis*, invited lecture, 33rd International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM), Harrachov, Czech Republic, January 2007.
37. *Timed Alternating-Time Temporal Logic*, keynote lecture, Fourth International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS), Paris, France, September 2006.
38. *Model Checking, Theorem Proving, and Abstract Interpretation: The Convergence of Formal Verification Technologies*, invited lecture, Grand Challenges of Informatics Symposium, Budapest, Hungary, September 2006.
39. *The Embedded Systems Design Challenge*, keynote lecture, 14th International Symposium on Formal Methods (FM), Hamilton, Ontario, August 2006.
40. *From Graph Models to Game Models*, invited lecture, 25 Years of Model Checking Celebration, Seattle, Washington, August 2006.
41. *Semiperfect-Information Games*, keynote lecture, 25th International Conference on Foundations of Software Technology and Theoretical Computer Science (FSTTCS), Hyderabad, India, December 2005.
42. *Processes as Games*, keynote lecture, 12th International Workshop on Expressiveness in Concurrency (EXPRESS), San Francisco, California, August 2005.
43. *Games in System Design and Verification*, keynote lecture, Tenth International Conference on Theoretical Aspects of Rationality and Knowledge (TARK), Singapore, June 2005.
44. *Checking Memory Safety with BLAST*, keynote lecture, Eighth International Conference on Fundamental Approaches to Software Engineering (FASE), Edinburgh, United Kingdom, April 2005.
45. *Games with Secure Equilibria: A Theory for Component Behavior*, keynote lecture, Third International Symposium on Formal Methods for Components and Objects (FMCO), Leiden, The Netherlands, November 2004.
46. *Interface-based Design*, keynote lecture, Workshop on Software Engineering Tools (The Monterey Workshop Series), Vienna, Austria, October 2004.
47. *Trading Memory for Randomness*, keynote lecture, First Annual Conference on Quantitative Evaluation of Systems (QEST), Twente, The Netherlands, September 2004.
48. *Applications of Games in System Design and Verification*, invited tutorial, Annual GAMES Workshop, Bordeaux, France, September 2004.
49. *The BLAST Query Language for Software Verification*, keynote lecture, 11th International Static Analysis Symposium (SAS), Verona, Italy, August 2004.

50. *Embedded Software: Better Models, Better Code*, keynote lecture, 25th International Conference on Applications and Theory of Petri Nets (ATPN), Bologna, Italy, June 2004.
51. *Rich Interfaces for Software Modules*, keynote lecture, 18th European Conference on Object-Oriented Programming (ECOOP), Oslo, Norway, June 2004.
52. *Game Models for Component Interaction*, keynote lecture, Workshop on Complexity, Finite Model Theory, and Databases, Lausanne, Switzerland, May 2004.
53. *Model Checking: From Hardware to Software*, keynote lecture, First Asian Symposium on Programming Languages and Systems (APLAS), Beijing, China, November 2003.
54. *The Fixed Logical Execution Time Assumption*, Workshop on Software Engineering for Embedded Systems: From Requirements to Implementation, Chicago, Illinois, September 2003.
55. *Automata for Specifying Component Interfaces*, keynote lecture, Eighth International Conference on Implementation and Application of Automata (CIAA), Santa Barbara, California, July 2003.
56. *Extreme Model Checking*, Symposium in Honor of the 64th Birthday of Zohar Manna, Taormina, Italy, June 2003.
57. *Hybrid Systems: Verification and Control*, invited tutorial, 14th International Conference on Computer-Aided Verification (CAV), Copenhagen, Denmark, July 2002.
58. *From Models to Code: The Missing Link in Embedded Software*, keynote lecture, Fifth International Workshop on Hybrid Systems: Computation and Control (HSCC), Stanford, California, March 2002.
59. *GIOTTO: A Time-Triggered Language for Embedded Programming*, First International Workshop on Embedded Software (EMSOFT), Tahoe City, California, October 2001.
60. *Decomposing Model-checking Tasks using the Assume-guarantee Paradigm*, invited tutorial, IEEE/ACM International Conference on Computer-Aided Design (ICCAD), San Jose, California, November 2000.
61. *The FRESKO Project: Formal Real-Time Software Components*, keynote lecture, First Workshop on Models for Time-critical Systems (MTCSS), State College, Pennsylvania, August 2000.
62. *MASACCIO: A Formal Model for Embedded Components*, First IFIP International Conference on Theoretical Computer Science (TCS), Sendai, Japan, August 2000.
63. *A Classification of Symbolic Transition Systems*, keynote lecture, 17th International Symposium on Theoretical Aspects of Computer Science (STACS), Lille, France, February 2000.
64. *A Symbolic Approach to Hybrid Dynamical Systems*, keynote lecture, IEEE Symposium on Computational Intelligence in Robotics and Automation (CIRA), Monterey, California, November 1999.
65. *Logics for Reasoning about Real-Time Computation*, 11th International Congress of Logic, Methodology, and Philosophy of Science, Cracow, Poland, August 1999.
66. *Exploiting Design Structure in Model Checking*, 15th International Conference on the Mathematical Foundations of Programming Semantics (MFPS), New Orleans, Louisiana, April 1999.
67. *Hybrid Games*, keynote lecture, AAAI Spring Symposium Series on Artificial Intelligence, Stanford, California, March 1999.
68. *It's About Time: Real-Time Logics Reviewed*, keynote lecture, Ninth International Conference on Concurrency Theory (CONCUR), Nice, France, September 1998.
69. *Computer-Aided Verification of Embedded Systems*, 15th IFIP World Computer Congress, Vienna, Austria, August 1998.

70. *Model Checking Game Properties of Multi-agent Systems*, keynote lecture, 25th International Colloquium on Automata, Languages, and Programming (ICALP), Aalborg, Denmark, July 1998.
71. *Alternating-Time Temporal Logic*, International Symposium on Compositionality, Bad Malente-Gremsmühlen, Germany, September 1997.
72. *Some Lessons from the HYTECH Experience*, keynote lecture, International Workshop on Hybrid and Real-Time Systems (HART), Grenoble, France, March 1997.
73. *A Brief History of Real Time*, keynote lecture, First International Workshop on the Verification of Infinite-State Systems (INFINITY), Pisa, Italy, August 1996.
74. *The Theory of Hybrid Automata*, invited tutorial, 11th Annual IEEE Symposium on Logic in Computer Science (LICS), New Brunswick, New Jersey, July 1996.
75. *HYTECH in Control Applications*, DIMACS Workshop on Controllers for Manufacturing and Automation: Specification, Synthesis, and Verification Issues, New Brunswick, New Jersey, May 1996.
76. *Algorithmic Analysis of Hybrid Systems*, Third SIAM Conference on Control and its Applications, St. Louis, Missouri, April 1995.
77. *Model-Checking and Abstract-Interpretation Strategies for Hybrid Systems*, Workshop on Hybrid Systems and Autonomous Control, Ithaca, New York, October 1994.
78. *Model-Checking Strategies for Linear Hybrid Systems*, Seventh International Conference on Industrial and Engineering Applications of Artificial Intelligence and Expert Systems (IEA/AIE), Austin, Texas, May 1994.
79. *Real-Time System = Discrete System + Clock Variables*, First AMAST Workshop on Real-Time Systems (ARTS), Iowa City, Iowa, November 1993.
80. *Real-Time Formalisms for Verification*, invited tutorial, Fifth International Conference on Computer-Aided Verification (CAV), Elounda, Greece, June 1993.
81. *Sooner Is Safer Than Later*, Eighth Summer Conference on General Topology and Applications, New York, New York, June 1992.
82. *Timed Transition Systems*, REX Workshop on Real-Time Systems (REX), Mook, The Netherlands, June 1991.

### **Distinguished Speaker Series**

1. *From Boolean to Quantitative Theories of Software*, Tsinghua Software Day, Tsinghua University, Beijing, China, April 2011.
2. *The Quantitative Agenda in Software Analysis*, Computer Science Colloquium, Masaryk University, Brno, Czech Republic, November 2010.
3. *Interface-based Design*, Computer Science Colloquium, Technical University Vienna, Austria, March 2009.
4. *Grand Challenges for Real-Time Systems*, Computer Science Colloquium, University of York, United Kingdom, November 2008.
5. *Rich Interfaces for Reactive, Real-Time, and Embedded Components*, Computer Science Colloquium, Technical University Eindhoven, The Netherlands, March 2007.
6. *Reliable Systems Engineering*, Inaugural Lecture, EPFL, Switzerland, December 2006.

7. *Reliable Systems Engineering*, Strachey Lecture in Computing Science, Oxford University, United Kingdom, October 2006.
8. *Games, Time, and Probability: Models and Algorithms for System Design and Analysis*, Wolfgang Pauli Colloquium, Technical University Vienna, Austria, May 2005.
9. *The Symbolic Approach to Hybrid Systems*, Hybrid Systems Lecture Series, Ecole Polytechnique, Orsay, France, April 2005.
10. *Embedded Software: Better Models, Better Code*, Jon Postel Distinguished Lecture, University of California, Los Angeles, February 2004.
11. *The Symbolic Approach to Hybrid Systems*, Mathematics and Computer Science Colloquium, Santa Clara University, Santa Clara, California, January 2004.
12. *From Models to Code: The Missing Link in Embedded Software*, Computer Science Colloquium, Purdue University, West Lafayette, Indiana, April 2003.
13. *From Models to Code: The Missing Link in Embedded Software*, Computer Science Colloquium, University of Delaware, Newark, Delaware, April 2003.
14. *The Symbolic Approach to Hybrid Systems*, Systems Engineering Colloquium, University of Maryland, College Park, Maryland, April 2003.
15. *Games, Time, and Probability: Models and Algorithms for System Design and Analysis*, Computer Science Colloquium, EPF Lausanne, Switzerland, February 2003.
16. *What is an Interface?*, Computer Science Colloquium, ETH Zürich, Switzerland, June 2002.
17. *From Models to Code: The Missing Link in Embedded Software*, Computer Science Colloquium, Technical University Munich, Germany, May 2002.
18. *Design and Verification of Embedded Systems*, Cray Distinguished Lecture, University of Minnesota, Minneapolis, Minnesota, September 2001.
19. *A Symbolic Approach to Hybrid Dynamical Systems*, Computer Science Colloquium, University of Brussels, Belgium, February 2000.
20. *A Symbolic Approach to Hybrid Dynamical Systems*, Computer Science Colloquium, University of Pennsylvania, Philadelphia, Pennsylvania, October 1999.
21. *Computer-Aided Verification of Embedded Systems*, Computer Science Colloquium, Max-Planck-Institut für Informatik, Saarbrücken, Germany, March 1997.
22. *Computer-Aided Verification of Embedded Systems*, Computer Science Colloquium, University of British Columbia, Vancouver, Canada, January 1997.
23. *A Brief History of Real Time*, Electrical Engineering and Computer Sciences Colloquium, University of California, Berkeley, California, April 1996.
24. *Hybrid Automata*, Computer Science Colloquium, University of Delaware, Newark, Delaware, April 1993.
25. *Hybrid Automata*, Computer Science Colloquium, Cornell University, Ithaca, New York, October 1992.

## Invited Lectures at Summer Schools

1. *Timed and Hybrid Automata*, Tenth International School on Formal Methods for the Design of Computer, Communication, and Software Systems: Quantitative Aspects of Programming Languages, Bertinoro, Italy, June 2010.
2. *Games in System Design and Verification*, 17th International School for Computer Science Researchers on Formal Methods: Theory and Practice, Lipari, Italy, July 2005.
3. *Interface-based Design*, lecture series, NATO International Summer School on Engineering Theories for Software-intensive Systems, Marktoberdorf, Germany, August 2004.
4. *Interface Theories for Component-based Design and Verification*, University of Washington and Microsoft Research Summer Institute on Specifying and Checking Properties of Software, Leavenworth, Washington, August 2001.
5. *Rectangular Hybrid Automata*, lecture series, NATO-ASI International Summer School on the Verification of Digital and Hybrid Systems, Antalya, Turkey, June 1997.
6. *Models and Logics for Timed and Hybrid Systems: An Introduction*, School on Methods and Tools for the Verification of Infinite-State Systems, Grenoble, France, March 1997.
7. *Automatic Verification of Real-Time and Hybrid Systems*, lecture series, BRICS International Autumn School on Verification, Aarhus, Denmark, October 1996.

## Other Invited Lectures

1. *Quantitative Reactive Modeling*, Verimag, Grenoble, France, January 2012.
2. *Formal Verification of Markovian Population Models*, Opening Symposium of the Vienna Center for Logic and Algorithms, Vienna, Austria, January 2012.
3. *Programming with Logical Execution Times*, Research Colloquium on Time in Cyber-physical Systems, Vienna, Austria, September 2011.
4. *Quantitative Reactive Modeling*, ERC Workshop, Venice, Italy, September 2011.
5. *Welche Rahmenbedingungen braucht Spitzenforschung?*, Strategietreffen des ÖVP Parlamentsklubs, Vienna, Austria, June 2011.
6. *The Quantitative Agenda in System Analysis*, SRI International, Menlo Park, California, July 2010.
7. *Executable Biology*, NSF Workshop on Shared Organizing Principles in the Computing and Biological Sciences, Arlington, Virginia, May 2010.
8. *Reliable Software—An Oxymoron?*, Rotary Club Wien-West, Vienna, Austria, June 2010.
9. *Puzzle Solving with a Computer*, lecture for kids, IST Austria Open Campus Celebration, Klosterneuburg, Austria, May 2010.
10. *IST Austria: Past, Present, Future*, Netzwerktreffen der Österreichischen Industriellenvereinigung, Klosterneuburg, Austria, May 2010; University of Linz, Austria, November 2010; Bundesvorstand der Österreichischen Industriellenvereinigung, Vienna, Austria, January 2011; Bundesministerium für Wissenschaft und Forschung, Vienna, Austria, February 2011.
11. *Rigorous Systems Engineering*, Media Workshop, Vienna, Austria, April 2010.
12. *Computer Science versus Computational Science*, HFSP Frontiers Meeting, Strasbourg, France, March 2010; HFSP Alumni Meeting, Vienna, Austria, September 2011.

13. *Towards a Quantitative Evaluation of Systems*, Embedded Systems Research Strategies Policy Conference, Vienna, Austria, March 2010.
14. *From Boolean to Quantitative System Specifications*, CHES Seminar, Berkeley, California, August 2009.
15. *Theories for Encompassing Heterogeneity*, COMBEST Annual Review, Brussels, Belgium, January 2009.
16. *Quantitative Generalizations of Languages*, Annual AutoMathA Workshop, Lausanne, Switzerland, May 2008.
17. *Designing Predictable and Robust Systems*, NSF Workshop: From Embedded Systems to Cyber-Physical Systems, St. Louis, Missouri, April 2008.
18. *Trends and Challenges in Embedded Systems and Computing*, European Commission, Brussels, Belgium, December 2007.
19. *Nonzero-sum Games in Verification and Synthesis*, Annual GAMES Workshop, Lausanne, Switzerland, September 2007.
20. *Value Iteration Fixpoints for Verification and Control*, CHES Review, Berkeley, California, February 2007.
21. *On Component and Interface Models*, ARTIST Workshop on Models of Computation and Communication, Zürich, Switzerland, November 2006.
22. *Software Verification*, Unicile, Lausanne, Switzerland, April 2006.
23. *The BLAST Model Checker*, Workshop on Software Verification, Hyderabad, India, December 2005.
24. *Model Checking: From Graphs to Games*, First Alpine Verification Meeting, Lausanne, Switzerland, October 2005.
25. *Games in System Design and Verification*, Microsoft Research, Redmond, Washington, August 2005.
26. *Interfaces for Compositional Real-Time Code*, ARTIST PI Meeting, Rennes, France, June 2005.
27. *Model Checking: From Hardware to Software*, Annual IC Research Day, EPFL, Lausanne, Switzerland, June 2005.
28. *Discounting the Future in Systems Theory*, CHES Seminar, Berkeley, California, March 2005.
29. *TRESOR: Trust in Reliable Software Research*, IBM Research Center, Zürich, Switzerland, September 2004.
30. *The Holy Grail of Computer Science: Automatic Program Verification*, Federal Verification Center, University of Brussels, Belgium, May 2004; Research Institute for Symbolic Computation, University of Linz, Austria, August 2004; Ecole Normale Supérieure, Cachan, France, April 2005.
31. *Hybrid Systems Theory*, CHES Review, Berkeley, California, December 2003; CHES Review, Berkeley, California, May 2004; CHES Review, Berkeley, California, November 2004; CHES Review, Berkeley, California, May 2005; CHES Review, Berkeley, California, October 2006.
32. *Embedded Software: Better Models, Better Code*, CHES Workshop, Berkeley, California, September 2003; ARTIST Collaboration Day, Philadelphia, Pennsylvania, October 2003; Industrial Liaison Program, University of California, Berkeley, California, February 2004; Robotics Seminar, EPFL, Lausanne, Switzerland, November 2004; ARTIST PI Meeting, Paris, France, January 2005.

33. *Interfaces for Resource-constrained Components*, GSRC Annual Review, Santa Clara, California, September 2003.
34. *Thread-modular Abstraction Refinement*, Fujitsu Labs, Mountain View, California, June 2003.
35. *An Update on the FRESKO Project*, GSRC PI Meeting, Oakland, California, March 2003.
36. *Software Quality Research at Berkeley*, Microsoft CITRIS Day, Berkeley, California, March 2003.
37. *Games, Time, and Probability: Models and Algorithms for System Design and Analysis*, ETH Zürich, Switzerland, February 2003.
38. *Automatic Software Verification: Code Checking, not Model Checking*, NASA PI Meeting, Mountain View, California, February 2002.
39. *Interface-based Design*, GSRC PI Meeting, Berkeley, California, December 2002.
40. *Hybrid Systems: From Models to Code*, CHES Kickoff Meeting, Berkeley, California, November 2002; DARPA Software-Enabled Control PI Meeting, Atlanta, Georgia, November 2002.
41. *From Models to Code: The Missing Link in Embedded Software*, GM CHES Day, Berkeley, California, October 2003.
42. *Model-based Design of Embedded Systems*, CHES Workshop, Berkeley, California, September 2002.
43. *AUTOTIMESAFE: Predictable, Portable Real-Time Software*, DaimlerChrysler, Esslingen, Germany, May 2002.
44. *Interface Compatibility Checking*, SRC Formal Verification Review, Salt Lake City, Utah, March 2002.
45. *CHES: Center for Hybrid and Embedded Software Systems*, Industrial Advisory Board Meeting for UC Berkeley EECS, Palo Alto, California, October 2001; BMW CHES Day, Berkeley, California, January 2002; DaimlerChrysler, Stuttgart, Germany, July 2002; National Technology Agency of Finland CHES Day, Berkeley, California, September 2002; EECS Faculty Lunch, Berkeley, California, October 2002; CHES Industrial Day, Berkeley, California, May 2003.
46. *Embedded Control Systems Development with GIOTTO*, Audi, Ingolstadt, Germany, September 2001; Honeywell Technology Center, Minneapolis, Minnesota, September 2001.
47. *What is an Interface?*, GSRC Annual Review, Santa Clara, California, September 2001; DARPA Program Composition for Embedded Systems PI Meeting, Mesa, Arizona, October 2001; Software Engineering Seminar, Technical University Munich, Germany, May 2002.
48. *Interface Theories for Component-based Design*, NSF Open Source Quality Retreat, Santa Cruz, California, May 2001; Verification Seminar, Stanford University, Stanford, California, August 2001.
49. *The Embedded Virtual Machine*, DARPA Software-Enabled Control PI Meeting, Annapolis, Maryland, May 2001.
50. *Model Checking of Infinite-State Systems*, Microsoft Research, Redmond, Washington, May 2001.
51. *MASACCIO: A Formal Model for Embedded Components*, GSRC PI Meeting, Pittsburgh, Pennsylvania, March 2001.
52. *The Control of Synchronous Systems*, SRC Formal Verification Review, Pittsburgh, Pennsylvania, March 2001.
53. *Decomposing Model-checking Tasks using the Assume-guarantee Paradigm*, IFIP Working Group 2.3 Meeting, Santa Cruz, California, January 2001.

54. *GIOTTO: A Time-Triggered Language for Embedded Programming*, DARPA Software-Enabled Control PI Meeting, Durango, Colorado, October 2000; Compaq Systems Research Center, Palo Alto, California, April 2001; Wind River Systems, Alameda, California, April 2001.
55. *Formal Software Verification*, GSRC PI Meeting, Stanford, California, September 2000.
56. *The FRESKO Project: Formal Real-Time Software Components*, GSRC PI Meeting, Los Angeles, California, June 2000; DARPA Software-Enabled Control PI Meeting, Albuquerque, New Mexico, June 2000.
57. *Fault-Tolerant Real-Time Networks*, MURI Kickoff Meeting, Berkeley, California, May 2000.
58. *From Hybrid Models to Time-Triggered Implementations*, DARPA Workshop on Software-Enabled Control, St. Louis, Missouri, April 2000.
59. *Early Detection of Counterexamples in Model Checking*, SRC Formal Verification Review, Austin, Texas, March 2000.
60. *Games in Formal Verification*, DARPA Formal Methods PI Meeting, Portland, Oregon, March 2000.
61. *Formal Models and Interoperability*, GSRC Annual Review, San Jose, California, December 1999; DARPA Workshop on High Confidence Aviation Systems, Alexandria, Virginia, June 2000.
62. *Assume-Guarantee Refinement Between Different Time Scales*, Intel Corporation, Santa Clara, California, November 1999.
63. *Interval-numerical Methods for Hybrid-systems Analysis*, MURI Annual Review, Berkeley, California, November 1999.
64. *Exploiting Design Structure in Model Checking*, DARPA Formal Methods PI Meeting, Alexandria, Virginia, October 1999; Synopsis Corporation, Mountain View, California, June 2000.
65. *A Research Agenda for Component Software Technology*, DARPA Workshop on Embedded Components, Berkeley, California, September 1999.
66. *Reactive and Hybrid Systems*, Biennial Scientific Review, Max-Planck Institute for Computer Science, Saarbrücken, Germany, June 1999.
67. *Formal Verification vs. Formalizable Design*, DARPA Workshop on Software Behavior Description, St. Thomas, U.S. Virgin Islands, December 1998.
68. *A Tutorial Introduction to Hybrid Systems Modeling and Verification*, Hybrid Systems Seminar, University of California, Berkeley, California, September 1998.
69. *Model Checking Game Properties of Multi-agent Systems*, Verification Seminar, Stanford University, Stanford, California, June 1998; MURI Annual Review, Berkeley, California, November 1998.
70. *MOCHA: Modularity in Model Checking*, DARPA Formal Methods PI Meeting, Seattle, Washington, June 1998.
71. *Logics for Reasoning about Time*, Logic Colloquium, University of California, Berkeley, California, April 1998.
72. *You Assume, We Guarantee: Methodology and Case Studies*, SRC Formal Verification Review, Austin, Texas, March 1998; DARPA Formal Methods PI Meeting, Stanford, California, October 1998.
73. *Software-based Control of Multi-agent Systems*, DARPA Workshop on Software-Enabled Control, Atlanta, Georgia, December 1997.

74. *Concurrency Modeling: The State View*, Design Seminar, University of California, Berkeley, California, November 1997.
75. *Some Lessons from the HYTECH Experience*, AFOSR Software and Systems PI Meeting, Rome, New York, September 1997.
76. *Two Approaches to the Nonzero Problem in Hybrid Control*, Cadence European Labs, Rome, Italy, July 1997; NASA Ames Research Center, Mountain View, California, August 1997; MURI Annual Review, Berkeley, California, October 1997.
77. *Formal Verification of Embedded Systems*, Industrial Liaison Program, University of California, Berkeley, California, March 1997; Scientific Systems, Woburn, Massachusetts, May 2001.
78. *Efficient Verification of Heterogeneous Systems*, SRC Formal Verification Review, Pittsburgh, Pennsylvania, March 1997.
79. *Efficient Formal Verification using Transition Hierarchies*, Intel Corporation, Hillsboro, Oregon, January 1997.
80. *A Brief History of Real Time*, University of Oldenburg, Oldenburg, Germany, October 1996; SRI International, Menlo Park, California, November 1996.
81. *Design and Verification of Hybrid Systems*, MURI Kickoff Meeting, Berkeley, California, July 1996; DARPA Workshop on Complex Systems, Portland, Oregon, August 1997.
82. *Reactive Modules*, Verification Seminar, Stanford University, Stanford, California, May 1996.
83. *New Looks at Old Concepts: Local Liveness and Finitary Fairness*, CAD Seminar, University of California, Berkeley, California, March 1996.
84. *A Unifying Framework for Computer-Aided Verification*, SRC Formal Verification Review, Berkeley, California, March 1996.
85. *Algorithmic Analysis of Real-Time and Hybrid Systems*, DARPA Formal Methods PI Meeting, San Diego, California, January 1996; Industrial Liaison Program, University of California, Berkeley, California, March 1996; ONR Workshop on Automated Formal Methods, Oxford, United Kingdom, June 1996; University of Passau, Passau, Germany, September 1996.
86. *A Reactive-Module Approach to Formal Design, Verification, and Synthesis*, SRC Annual Review, Berkeley, California, October 1995.
87. *Computer-Aided Verification of Infinite-State Systems*, University of California, Berkeley, California, March 1995; Stanford University, Stanford, California, March 1995; AT&T-SUNY Specification and Verification Workshop, Stony Brook, New York, November 1995; Synopsis Corporation, Mountain View, California, June 1996.
88. *Model-Checking and Abstract-Interpretation Strategies for Hybrid Systems*, AFOSR Software and Systems PI Meeting, Washington, DC, September 1994; Cornell University, Ithaca, New York, October 1994; Stanford University, Stanford, California, January 1995.
89. *Algorithmic Analysis of Hybrid Systems*, Stanford University, Stanford, California, August 1994.
90. *A Determinizable Class of Timed Automata*, University of California, Berkeley, California, March 1994.
91. *Real-Time System = Discrete System + Clock Variables*, Fourth North American Jumelage, SRI International, Menlo Park, California, October 1993.

92. *Computing Accumulated Delays in Real-Time Systems*, Stanford University, Stanford, California, August 1993.
93. *Hybrid Automata*, Mathematical Sciences Institute, Ithaca, New York, February 1993; Stanford University, Stanford, California, March 1993; University of California, Berkeley, California, March 1993; AT&T Bell Laboratories, Murray Hill, New Jersey, May 1993.
94. *Some Recent Progress and Some Open Problems in Timed Model Checking*, ONR Workshop on Formal Methods in Software Engineering, Monterey, California, May 1992.
95. *Symbolic Model Checking for Real-Time Systems*, Cornell University, Ithaca, New York, April 1992; Carnegie-Mellon University, Pittsburgh, Pennsylvania, April 1992; AT&T Bell Laboratories, Murray Hill, New Jersey, May 1992; Stanford University, Stanford, California, August 1993.
96. *Logics and Models of Real Time*, ORA Corporation, Ithaca, New York, February 1992.
97. *Back to the Future*, Fourier University, Grenoble, France, December 1991; Cornell University, Ithaca, New York, April 1992; Research Institute for Symbolic Computation, Hagenberg, Austria, July 1992; Stanford University, Stanford, California, March 1993.
98. *Sooner Is Safer Than Later*, Fourier University, Grenoble, France, November 1991; Cornell University, Ithaca, New York, February 1992; Technical University Eindhoven, The Netherlands, November 1991.
99. *The Temporal Specification and Verification of Real-Time Systems*, Ph.D. Thesis Defense, Stanford University, Stanford, California, June 1991; Berkeley Workshop on Temporal and Real-Time Specification, International Computer Science Institute, Berkeley, California, August 1990.
100. *When Eventually Isn't Good Enough*, Stanford Computer Forum, Stanford University, Stanford, California, February 1991; University of California, Santa Barbara, California, February 1991; Rice University, Houston, Texas, February 1991; University of Toronto, Toronto, Canada, February 1991; AT&T Bell Laboratories, Murray Hill, New Jersey, February 1991; Cornell University, Ithaca, New York, February 1991; SRI International, Menlo Park, California, March 1991; University of British Columbia, Vancouver, Canada, March 1991; University of California, San Diego, California, March 1991; Columbia University, New York, New York, March 1991; State University of New York, Stony Brook, New York, March 1991; Bell Communications Research, Morristown, New Jersey, March 1991; Xerox Palo Alto Research Center, Palo Alto, California, April 1991.
101. *Temporal Logic and Real Time*, SRI International, Menlo Park, California, August 1990; Kepler University, Linz, Austria, October 1990; The Technion, Haifa, Israel, October 1990.
102. *A Temporal Logic for Real Time*, Stanford Computer Forum, Stanford University, Stanford, California, February 1990.
103. *A Really Temporal Logic*, Stanford University, Stanford, California, October 1989; IBM T.J. Watson Research Center, Yorktown Heights, New York, December 1989.

## Panels

1. Panelist, *Innovation durch Exzellenz*, Veranstaltung der Österreichischen Industriellenvereinigung, Vienna, Austria, June 2011.
2. Panelist, *Wien als internationale Universitäts- und Forschungsstadt*, Veranstaltung der Stadt Wien, Vienna, Austria, June 2011.
3. Panelist, *Kooperation und/oder Wettbewerb*, Tagung des Österreichischen Wissenschaftsrates, Vienna, Austria, November 2010.

4. Panelist, *Welche Forschung braucht Österreich?*, IST Austria Science-Industry Talk, Klosterneuburg, Austria, June 2010.
5. Panelist, *Wissenschaft und Forschung: Helfer oder Opfer der Krise?*, European Forum Alpbach, Vienna, Austria, December 2009.
6. Moderator, *Institutes of Basic Research: Is There One Formula for Success?*, Campus Opening of IST Austria, Klosterneuburg, Austria, June 2009.
7. Moderator, *Embedded Software: A New Research Community?*, First International Workshop on Embedded Software (EMSOFT), Tahoe City, California, October 2001.
8. Panelist, *Hybrid Systems*, NSF-DARPA Workshop on Future Directions in Hybrid and Embedded Systems, Alexandria, Virginia, October 2000.
9. Panelist, *Formal Methods*, DARPA Workshop on High Confidence Aviation Systems, Alexandria, Virginia, June 2000.
10. Panelist, *Future Directions of EDA Research at Berkeley*, Electrical Engineering and Computer Sciences Colloquium, University of California, Berkeley, California, October 1997.
11. Panelist, *Future Trends in Industrial Computer-Aided Verification*, Ninth International Conference on Computer-Aided Verification (CAV), Haifa, Israel, June 1997.
12. Moderator, *Hybrid Systems Research: Achievements, Problems, and Goals*, DIMACS Workshop on Verification and Control of Hybrid Systems, New Brunswick, New Jersey, October 1995.

## University Activities

### Administration

President, *Institute of Science and Technology Austria* (IST Austria), since 2009.

Director, *Doctoral Program in Computer and Communication Sciences* (EDIC), EPFL, 2007–09.

Director, *Center for Hybrid and Embedded Software Systems* (CHESS), University of California, Berkeley, 2002–09.

### Instruction

Lower-division undergraduate courses:

*Theoretical Computer Science*, EPFL, Spring 2008, Spring 2009.

*Advanced Theoretical Computer Science*, EPFL, Spring 2008.

*Theoretical Computer Science III*, EPFL, Fall 2005, Fall 2006.

*Structure and Interpretation of Signals and Systems*, UC Berkeley (EECS 20), Spring 2001.

*Discrete Mathematics*, Cornell (CS 280), Fall 1992, Fall 1993, Fall 1994.

Upper-division undergraduate courses:

*Efficient Algorithms and Intractable Problems*, UC Berkeley (CS 170), Fall 2002.

*Computability and Complexity*, UC Berkeley (CS 172), Spring 1997, Fall 1997, Spring 2000, Fall 2000, Fall 2003.

*Design and Analysis of Algorithms*, Cornell (CS 482), Spring 1992.

*Automated Reasoning*, Stanford (CS 157), Winter 1989.

#### Graduate courses:

- Formal Methods*, IST Austria, Fall 2011 (taught jointly with Krishnendu Chatterjee).
- Scientific Presentation and Conduct*, IST Austria, Spring 2011 (taught jointly with Sylvia Cremer), Spring 2012 (taught jointly with Sylvia Cremer).
- Problem Solving in Computer Science*, EPFL, Spring 2005, Spring 2007, Fall 2008.
- Model Checking: From Finite-State to Hybrid Systems*, Technical University Munich, May 2002; ETH Zürich, June 2002; EPFL, Fall 2007.
- Formal Techniques for Software Reliability*, UC Berkeley (CS 294-8), Spring 2001 (taught jointly with Alex Aiken and George Necula).
- Hybrid Systems*, UC Berkeley (EECS 291E), Fall 1996 (taught jointly with Shankar Sastry), Spring 2000 (taught jointly with Karl Johansson).
- Computer-Aided Verification*, UC Berkeley (EECS 219C), Spring 1996, Spring 1998, Fall 1999, Spring 2003; University of the Saarland, Spring 1999; EPFL, Fall 2004, Spring 2006.
- Advanced Programming Languages*, Cornell (CS 611), Fall 1995.
- Theory of Concurrent Systems*, Cornell (CS 615), Spring 1993, Spring 1994, Spring 1995.

#### Graduate seminars:

- Topics in Formal Methods*, Cornell (CS 713), Fall 1994.
- Technical Writing*, Cornell (CS 713), Fall 1993.
- Topics in Hybrid Systems*, Cornell (CS 713), Fall 1992, Fall 1995.

#### Advising

- Undergraduate advisor in Computer Science at EPFL, 2005–09; in Computer Engineering at UC Berkeley, 2002–04; in Computer Science at Cornell University, 1992–95.
- Semester project supervisor at EPFL for Regis Blanc (*ABC: Analyzing Bounds and Complexity*, 2009); Thibaud B. Hottelier (*VALIDATOR: A Verification Tool with Bound and Invariant Generation*, 2008); Polina Makeeva (*Regular Membership Constraints*, 2008).
- Bachelor’s thesis supervisor at EPFL for Christoph Trunk (*On Games of Imperfect Information*, 2007).
- Master’s advisor in Computer Science at EPFL, 2005–09; M.Eng. advisor in Computer Science at Cornell University, 1992–95.
- Master’s thesis supervisor at EPFL for Damien Zufferey (*Verification of Concurrent Asynchronous Message-Passing Programs*, 2009); Thibaud B. Hottelier (*Invariants for Arrays and Matrices*, 2009); Cédric Favre (*Algorithmic Verification of Business Process Models*, 2008); Yvan Bidiville (*An Extended instrumentation Language for Fault Localization*, 2007); Ashutosh K. Gupta (*Proving Termination of Program Loops*, 2007); Marc Schaub (*Formal Methods in Systems Biology: Modeling the Notch/Wnt Crosstalk in Mammalian Skin*, 2006), won the EPFL Foundation Annaheim Award 2006; Grégory Théoduloz (*Integrating Shape Analysis in the Model Checker BLAST*, 2006), won the EPFL Unicile Award 2006.
- M.S. thesis supervisor at UC Berkeley for Arindam Chakrabarti (*Interface Compatibility Checking for Software Modules*, 2005), Krishnendu Chatterjee (*Stack-Size Analysis for Interrupt-driven Programs*, 2004), Arkadeb Ghosal (*xGIOTTO: Event-driven Programming*, 2004), Shaz Qadeer (*Partial-order Reduction in Symbolic State-space Exploration*, 1997).

- M.S. thesis reader at UC Berkeley for Jongho Lee (*New Real-Time Embedded Software for an Autonomous Helicopter System using Giotto*, 2006), N. Vinay Krishnan (*Real-Time Systems Design in Ptolemy II: A Time-triggered Approach*, 2004), Judith Liebman (*The Time-based Approach to Embedded Programming: A Hardware-in-the-Loop Simulation Framework*, 2002), Paul Whitaker (*The Simulation of Synchronous Reactive Systems in Ptolemy II*, 2001), Minxi Gao (*Multi-valued Multi-level Logic Synthesis*, 2000), Jun Zhang (*Dynamical Systems Revisited: Hybrid Systems with Zeno Executions*, 1999), Mudit Goel (*Process Networks in Ptolemy II*, 1998), Neil Smyth (*CSP Domain in Ptolemy II*, 1998), Gurmeet S. Manku (*Structural Symmetries and Model Checking*, 1997), Cliff Cordeiro (*The Tycho Interactive Documentation System*, 1997), Farhana Sheikh (*Visualizing Architecture and Algorithm Interaction in Embedded Systems*, 1997), Alok Agrawal (*Compact Complete Test Sets for Multiple Stuck Faults*, 1996), Adrian Isles (*Formal Verification using the Integer Combinational/Sequential Concurrency Model*, 1996), Bilung Lee (*Fusing Data Flow with Finite State Machines*, 1996).
- Ph.D. preliminary examiner in Computer-Aided Design at UC Berkeley, Fall 1996, Spring 1997, Fall 1997, Spring 1998, Fall 1999, Spring 2000, Fall 2000, Spring 2001, Spring 2003.
- Ph.D. rotation project supervisor at IST Austria for Johannes Reiter (2011).
- Ph.D. qualifying examiner at IST Austria for Arjun Radhakrishna (2011), Anmol V. Singh (2010), Damien Zufferey (2010).
- Ph.D. qualifying examiner at UC Berkeley for Arkadeb Ghosal (electrical engineering, 2006), Krishnendu Chatterjee (computer science, 2004), Slobodan Matic (electrical engineering, 2004), Arindam Chakrabarti (computer science, 2004), Vinayak S. Prabhu (electrical engineering, 2004), Ranjit Jhala (computer science, 2003), Westley Weimer (computer science, 2003), Stephen Neuendorffer (electrical engineering, 2003), Joseph Flenner (mathematics, 2003), Xiaojun Liu (electrical engineering, 2003), Rupak Majumdar (computer science, 2002), Deepak Rajan (industrial engineering and operations research, 2001), Benjamin Horowitz (computer science, 2001), David Andre (computer science, 2000), Daishi Harada (computer science, 2000), Clifton Ealy (mathematics, 2000), Alf Onshuus (mathematics, 2000), Yuhong Xiong (electrical engineering, 2000), Jie Liu (electrical engineering, 1999), Freddy Y.C. Mang (computer science, 1999), John Davis (electrical engineering, 1998), Adrian Isles (electrical engineering, 1998), Bilung Lee (electrical engineering, 1998), Shaz Qadeer (electrical engineering, 1998), Sriram K. Rajamani (computer science, 1998), Amit Narayan (electrical engineering, 1997), George Pappas (electrical engineering, 1997), Serdar Tasiran (electrical engineering, 1996), Claire Tomlin (electrical engineering, 1996), Hal Wasserman (computer science, 1996).
- Ph.D. jury president at EPFL for Radu Jurca (*Truthful Reputation Mechanisms for Online Systems*, 2007).
- Ph.D. thesis reader at UC Berkeley for Xiaojun Liu (*Semantic Foundation of the Tagged Signal Model*, 2005), Deepak Rajan (*Designing Capacitated Survivable Networks: Polyhedral Analysis and Algorithms*, 2004), Yuhong Xiong (*An Extensible Type System for Component-based Design*, 2002), John Davis (*Order, Concurrency, and System-level Design*, 2000), George Pappas (*Hybrid Systems: Computation and Abstraction*, 1998), Claire Tomlin (*Hybrid Control of Air-traffic Management Systems*, 1998); at Cornell University for Eric Aaron, Jason Hickey, Rod Moten, David Sturgill, Samuel Weber (1992–95).
- Ph.D. thesis referee for Tatjana Petrov (*Rule-based Models for Signal Transduction*, ETH Zurich); Georg Weissenbacher (*Program Analysis with Interpolants*, Oxford University, United Kingdom, 2010); Dejan Ničković (*Checking Timed and Hybrid Properties: Theory and Applications*, University of Grenoble, France, 2008); Corneliu Popeea (*Disjunctive Invariants for Modular Static Analysis*, National University of Singapore, 2008); Jérémie Cabessa (*A Game-theoretical Approach to the Algebraic Counterpart of the Wagner Hierarchy*, University of Paris 7, France, 2007); Laurent Doyen (*Algorithmic Analysis of Complex Semantics for Timed and Hybrid Automata*, University of Brussels, Belgium, 2006); Cristina Cerschi Seceleanu (*A Methodology for Constructing Correct Reactive Systems*, University of Turku,

Finland, 2005); Maria Sorea, (*Verification of Real-Time Systems through Lazy Approximations*, University of Ulm, Germany, 2004); Mauno Rönkkö (*Stepwise Development of Hybrid Systems*, University of Turku, Finland, 2001); Jean-François Raskin (*Logics, Automata, and Classical Theories for Deciding Real Time*, University of Namur, Belgium, 1999); Gunnar Wittich (*Ein problemorientierter Ansatz zum Nachweis von Realzeiteigenschaften eingebetteter Systeme*, University of Oldenburg, Germany, 1999); Yonit Kesten (*Refinement and Verification of Reactive and Hybrid Systems*, The Weizmann Institute of Science, Israel, 1995).

Habilitation thesis referee for Nicolas Markey (*Verification of Embedded Systems: Algorithms and Complexity*, ENS Cachan, France, 2011).

Postdoctoral supervisor at Cornell University for Howard Wong-Toi (1994–96); at UC Berkeley for Orna Kupferman (1996–98), Luca de Alfaro (1997–2001), Sriram C. Krishnan (1998–99), Jean-François Raskin (1998–2000), Christoph M. Kirsch (1999–2004), Marius Minea (2000–01), Grégoire Sutre (2000–01), Marcin Jurdziński (2000–04), Marco A. Sanvido (2002–04), Dirk Beyer (2003–04); at EPFL for Dirk Beyer (2004–06), Jasmin Fisher (2004–07), Nir Piterman (2004–07), Andrey Rybalchenko (2006–07; won a Microsoft postdoctoral fellowship), Laurent Doyen (2006–09), Dietmar Berwanger (2007–08), Barbara Jobstmann (2007–09), Laura Kovács (2007–09), Dejan Ničković (2008–09), Thomas Wies (2008–09), Verena Wolf (2008–09); at IST Austria for Thomas Wies (2009–11), Vasu Singh (2010–11), Pavol Cerný (since 2009), Dejan Ničković (since 2009), Ali Sezgin (since 2010), Udi Bokor (since 2011), Cezara Dragoi (since 2011), Ashutosh Gupta (since 2011).

## University Committees

Stanford University: Computer Science Graduate Student Representative, 1989–90.

Cornell University: Computer Science Faculty Recruiting Committee, 1993–94, 1994–95; Computer Science Distinguished Lecture Series Coordinator, 1993–94, 1994–95; Computer Science Cognitive Studies Liaison, 1993–94, 1994–95, Fall 1995; Computer Science Undergraduate Curriculum Committee, 1992–93; Computer Science M.Eng. Curriculum Committee, 1992–93; graduate field member for Computer Science, Applied Mathematics, and Cognitive Studies, 1992–95.

University of California, Berkeley: EECS Faculty Recruiting Committee, 2002–03; EECS NASA Ames Task Force, 2000–01; EECS Alumni Outreach Task Force, 2000–01; EECS Coordination and Planning Task Force, 1996–97; EECS Undergraduate Admissions Committee, 1999–2000 (chair); EECS Undergraduate Curriculum Committee, 1997–98, 1998–99, 1999–2000; EECS Graduate Admissions Committee, 1996–97, 1997–98; EECS Math 55 Task Force, 1998–99; EECS Retreat Committee, 1996–97, 1997–98.

University of the Saarland: Mathematics for Computer Science Task Force, 1999; International Graduate School Task Force, 1999.

EPFL: EPFL Faculty Promotion Committee, 2004–09; IC Executive Committee, 2007–09; IC Faculty Promotion Committee, 2007–08; IC Doctoral School Committee, 2006–07; IC MsPhD Program Task Force, 2006–07; IC Faculty Recruiting Committee, 2004–06.

## Professional Activities

### Conference Organizer and Program Chair

1. *Eighth International Conference on Formal Modeling and Analysis of Timed Systems (FORMATS)*, Klosterneuburg, Austria, September 2010 (jointly organized and chaired with Krishnendu Chatterjee).
2. *IST Austria Symposium on Reactive Modeling in Science and Engineering*, Klosterneuburg, Austria, May 2010.

3. *NSF Workshop: From Embedded Systems to Cyber-Physical Systems*, St. Louis, Missouri, April 2008 (jointly organized with Alberto L. Sangiovanni-Vincentelli, Jonathan Sprinkle, and Janos Sztipanovits).
4. *16th International Conference on Computer Science Logic (CSL)*, Lausanne, Switzerland, September 2007 (jointly chaired with Jacques Duparc).
5. *Second International Workshop on Foundations of Component-based Design (WFCD)*, Salzburg, Austria, September 2007 (jointly organized with Werner Damm).
6. *First Alpine Verification Meeting (AVM)*, Lausanne, Switzerland, October 2005 (jointly organized with Dirk Beyer).
7. *Annual IC Research Day*, EPFL, Lausanne, Switzerland, June 2005.
8. *Workshop on Software Engineering Tools (The Monterey Workshop Series)*, Vienna, Austria, October 2004 (jointly organized with Zohar Manna).
9. *First International Workshop on Embedded Software (EMSOFT)*, Tahoe City, California, October 2001 (jointly organized with Christoph M. Kirsch).
10. *First International Workshop on Hybrid Systems: Computation and Control (HSCC)*, Berkeley, California, April 1998 (jointly organized and chaired with Shankar Sastry).
11. *Eighth International Conference on Computer-Aided Verification (CAV)*, New Brunswick, New Jersey, July 1996 (jointly organized and chaired with Rajeev Alur).
12. *DIMACS Workshop on Verification and Control of Hybrid Systems*, New Brunswick, New Jersey, October 1995 (jointly organized and chaired with Rajeev Alur and Eduardo D. Sontag).

#### **Member of Conference Program Committees**

1. Tenth International Conference on Computational Methods in Systems Biology (CMSB), 2012.
2. Second International Workshop on Static Analysis and Systems Biology (SASB), 2011.
3. First International Workshop on Static Analysis and Systems Biology (SASB), 2010.
4. Second International AutoMathA Conference, 2009.
5. Fourth Annual ACM Workshop on Transactional Computing (TRANSACT), 2009.
6. 12th International Workshop on Hybrid Systems: Computation and Control (HSCC), 2009.
7. Third International IFAC Conference on Analysis and Design of Hybrid Systems (ADHS), 2009.
8. 35th International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM), 2009.
9. IFIP Working Conference on Domain Specific Languages (DSL), 2009.
10. International Conference on Logic Programming and Automated Reasoning (LPAR), 2008.
11. International Workshop on Model-based Architecturing and Construction of Embedded Systems (ACES), 2008.
12. 29th Annual IEEE Real-Time Systems Symposium (RTSS), 2008.
13. 4th International Workshop on Automated Specification and Verification of Web Systems (WWV), 2008.

14. 6th Annual IEEE Conference on Software Engineering and Formal Methods (SEFM), 2008.
15. 20th International Conference on Computer-Aided Verification (CAV), 2008.
16. First International Workshop on Cyber-Physical Systems (CPS), 2008.
17. Eighth International School on Modeling and Verifying Parallel Processes (MOVEP), 2008.
18. First International Workshop on Model-driven High-level Programming of Embedded Systems (SLAP), 2008.
19. Ninth International Conference on Verification, Model Checking, and Abstract Interpretation (VM-CAI), 2008.
20. Fourth Annual IEEE Conference on Quantitative Evaluation of Systems (QEST), 2007.
21. 22nd Annual IEEE Symposium on Logic in Computer Science (LICS), 2007.
22. 34th Annual Symposium on Principles of Programming Languages (POPL), 2007.
23. Design, Automation, and Test in Europe (DATE), 2007.
24. First International Conference on Tests and Proofs (TAP), 2007.
25. First International Workshop on Testing, Analysis, and Verification of Web Services and Applications (TAV-WEB), 2006.
26. 12th Annual IEEE Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA), 2006.
27. Sixth Annual ACM Conference on Embedded Software (EMSOFT), 2006.
28. Second International Conference on Intelligent Computer Communication and Processing (ICCP), 2006.
29. 33rd International Colloquium on Automata, Languages, and Programming (ICALP), 2006.
30. International Symposium on Component-Based Software Engineering (CBSE), 2006.
31. International Joint Conference on Automated Reasoning (IJCAR), 2006.
32. Joint Modular Languages Conference (JMLC), 2006.
33. Sixth International Conference on Application of Concurrency to System Design (ACSD), 2006.
34. 11th International Workshop on Formal Methods for Industrial Critical Systems (FMICS), 2006.
35. Design, Automation, and Test in Europe (DATE), 2006.
36. Third International Colloquium on Theoretical Aspects of Computing (ICTAC), 2006.
37. International Conference on Foundations of Software Science and Computation Structures (FOSSACS), 2006.
38. Second International IFAC Conference on Analysis and Design of Hybrid Systems (ADHS), 2006.
39. Fifth International Symposium on Software Composition (SC), 2006.
40. Second International Workshop on Software Quality (SOQUA), 2005.

41. 11th Annual IEEE Conference on Embedded and Real-Time Computing Systems and Applications (RTCSA), 2005.
42. First International Workshop on Foundations of Interface Technologies (FIT), 2005.
43. Fifth Annual ACM Conference on Embedded Software (EMSOFT), 2005.
44. Fifth International Conference on Application of Concurrency to System Design (ACSD), 2005.
45. First International Workshop on Verification and Validation of Model-based Planning and Scheduling Systems (VVPS), 2005.
46. 17th International Conference on Computer-Aided Verification (CAV), 2005.
47. International Symposium on Component-Based Software Engineering (CBSE), 2005.
48. First International Embedded and Hybrid Systems Conference (IEHSC), 2005.
49. 13th International Symposium on Formal Methods (FM), 2005.
50. Eighth International Workshop on Hybrid Systems: Computation and Control (HSCC), 2005.
51. Second Asian Symposium on Programming Languages and Systems (APLAS), 2004.
52. 10th International Conference on Real-Time and Embedded Computing Systems and Applications (RTCSA), 2004.
53. Fourth Annual ACM Conference on Embedded Software (EMSOFT), 2004.
54. Eighth International Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT), and Second International Workshop on Formal Modeling and Analysis of Timed Systems (FORMATS), 2004.
55. 31st International Colloquium on Automata, Languages, and Programming (ICALP), 2004.
56. Fourth International Conference on Application of Concurrency to System Design (ACSD), 2004.
57. Seventh International Workshop on Hybrid Systems: Computation and Control (HSCC), 2004.
58. First International Workshop on Formal Modeling and Analysis of Timed Systems (FORMATS), 2003.
59. Third International Symposium on Temporal Representation and Reasoning and Fourth International Conference on Temporal Logic (TIME-ICTL), 2003.
60. 18th Annual IEEE Symposium on Logic in Computer Science (LICS), 2003.
61. International Conference on Programming Language Design and Implementation (PLDI), 2003.
62. Eighth International Conference on Implementation and Application of Automata (CIAA), 2003.
63. Fifth International IFAC Conference on Analysis and Design of Hybrid Systems (ADHS), 2003.
64. Second International Workshop on Embedded Software (EMSOFT), 2002.
65. Seventh International Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT), 2002.
66. 13th International Conference on Concurrency Theory (CONCUR), 2002.
67. 19th International Conference on Automated Deduction (CADE), 2002.

68. 14th International Conference on Computer-Aided Verification (CAV), 2002.
69. Second International Symposium on Temporal Representation and Reasoning (TIME), 2002.
70. Fifth International Workshop on Hybrid Systems: Computation and Control (HSCC), 2002.
71. First International Workshop on Theory and Practice of Timed Systems (TPPTS), 2002.
72. Fifth International Conference on Coordination Models and Languages (COORDINATION), 2002.
73. 28th International Colloquium on Automata, Languages, and Programming (ICALP), 2001.
74. First International Symposium on Temporal Representation and Reasoning (TIME), 2001.
75. Second International Workshop on Distributed System Validation and Verification (DSVV), 2001.
76. Fourth International Workshop on Hybrid Systems: Computation and Control (HSCC), 2001.
77. 11th International Conference on Concurrency Theory (CONCUR), 2000.
78. 17th International Conference on Automated Deduction (CADE), 2000.
79. First International Workshop on Distributed System Validation and Verification (DSVV), 2000.
80. Fourth International Conference on Automation of Mixed Processes (ADPM), 2000.
81. Tenth International Conference on Concurrency Theory (CONCUR), 1999.
82. 11th International Conference on Computer-Aided Verification (CAV), 1999.
83. 26th International Colloquium on Automata, Languages, and Programming (ICALP), 1999.
84. 19th Annual IEEE Conference on Distributed Computing Systems (ICDCS), 1999.
85. Fifth AMAST Workshop on Real-Time Systems (ARTS), 1999.
86. Tenth International IEEE Symposium on Computer-Aided Control System Design (CACSD), 1999.
87. Second International Workshop on Formal Methods in Computer-Aided Design (FMCAD), 1998.
88. Fifth International Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT), 1998.
89. 23rd International Symposium on Mathematical Foundations of Computer Science (MFCS), 1998.
90. Third International Workshop on the Verification of Infinite-State Systems (INFINITY), 1998.
91. 13th Annual IEEE Symposium on Logic in Computer Science (LICS), 1998.
92. Fourth International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS), 1998.
93. Fifth International Hybrid Systems Workshop (Notre Dame, Indiana), September 1997.
94. International Symposium on Theoretical Aspects of Computer Software (TACS), 1997.
95. Second International Workshop on the Verification of Infinite-State Systems (INFINITY), 1997.
96. Ninth International Conference on Computer-Aided Verification (CAV), 1997.
97. Fourth AMAST Workshop on Real-Time Systems (ARTS), 1997.

98. Formal Aspects of Software Engineering (FASE), 1997.
99. International Workshop on Hybrid and Real-Time Systems (HART), 1997.
100. First ACM SigPlan Workshop on the Automated Analysis of Software (Paris, France), January 1997.
101. Fourth International Hybrid Systems Workshop (Ithaca, New York), October 1996.
102. Fourth International Symposium on Formal Techniques in Real-Time and Fault-Tolerant Systems (FTRTFT), 1996.
103. Seventh International Conference on Concurrency Theory (CONCUR), 1996.
104. Sixth International Conference on Concurrency Theory (CONCUR), 1995.
105. Seventh International Conference on Computer-Aided Verification (CAV), 1995.
106. Tenth Annual IEEE Symposium on Logic in Computer Science (LICS), 1995.
107. 13th Annual IEEE Conference on Distributed Computing Systems (ICDCS), 1993.

#### Member of Journal and Book Editorial Boards

1. *Journal of the ACM*, since 2009.
2. EATCS Texts and Monographs Series, Springer, since 2004.
3. *Foundations and Trends in Electronic Design Automation*, NOW Publishers, since 2004.
4. *Theoretical Computer Science*, Springer, 2002–09.
5. *ACM Transactions on Embedded Computing Systems*, 2001–08.
6. *Software Tools for Technology Transfer*, Springer, 1997–2008.
7. *Formal Methods in System Design*, Springer, 1996–2008.
8. *Handbook of Networked and Embedded Control Systems*, Birkhäuser, 2005.
9. *International Journal of Embedded Systems*, special issue on Hardware-Software Codesign for Systems-on-Chip, 2004.

#### Journal Referee

ACM Transactions on Programming Languages and Systems; ACM Transactions on Software Engineering and Methodology; Communications of the ACM; Design Automation for Embedded Systems; Discrete-Event Dynamic Systems; Distributed Computing; Formal Aspects of Computing; Formal Methods in System Design; IEEE Transactions on Automatic Control; IEEE Transactions on Computers; IEEE Transactions on Software Engineering; Information and Computation; Information Processing Letters; International Journal of Systems Science; Journal of Automated Reasoning; Journal of Computer and Software Engineering; Journal of Logic and Computation; Journal of Parallel and Distributed Computing; Journal of the ACM; SIAM Journal on Computing; The Journal of Symbolic Computation; The Journal of Symbolic Logic; Theoretical Computer Science.

#### Book Referee

Addison-Wesley; Elsevier; IEEE Press; Kluwer Academic Publishers; MIT Press; Springer.

## Conference Referee

IEEE Symposium on Logic in Computer Science, 1991; Conference on Computer-Aided Verification, 1992; ACM Symposium on Principles of Distributed Computing, 1992; Conference on Concurrency Theory, 1992; IEEE Symposium on Logic in Computer Science, 1993; Conference on Computer-Aided Verification, 1993; ACM Symposium on Principles of Distributed Computing, 1993; IEEE Symposium on Foundations of Computer Science, 1993; IEEE Real-Time Systems Symposium, 1993; Conference on Computer-Aided Verification, 1994; Conference on Formal Techniques in Real-Time and Fault-Tolerant Systems, 1994; IEEE Symposium on Foundations of Computer Science, 1994; Conference on Algebraic Methodology and Software Technology, 1995; Conference on the Mathematics of Program Construction, 1995; ACM Symposium on Principles of Distributed Computing, 1995; IEEE Symposium on Foundations of Computer Science, 1995; International Conference on Parallel Processing, 1996; Asian Computing Science Conference, 1996; Symposium on Theoretical Aspects of Computer Science, 1997; IEEE Symposium on Logic in Computer Science, 1997; International Colloquium on Automata, Languages, and Programming, 1997; High-Assurance Systems Engineering Workshop, 1997; IEEE Symposium on Foundations of Computer Science, 1997; IEEE Real-Time Systems Symposium, 1997; Symposium on Theoretical Aspects of Computer Science, 1998; IEEE International Symposium on Circuits and Systems, 1998; IEEE Conference on Decision and Control, 1998; IEEE Symposium on Foundations of Computer Science, 1998; Conference on Algebraic Methodology and Software Technology, 1998; ACM Symposium on Principles of Programming Languages, 1999; Conference on Tools and Algorithms for the Construction and Analysis of Systems, 1999; Static Analysis Symposium, 1999; Conference on Computer Science Logic, 1999; ACM Symposium on Principles of Programming Languages, 2000; IEEE Symposium on Logic in Computer Science, 2000; European Conference on Parallel Computing, 2000; IEEE Symposium on Foundations of Computer Science, 2000; ACM Symposium on Principles of Programming Languages, 2001; Conference on Concurrency Theory, 2001; IEEE Symposium on Foundations of Computer Science, 2001; ACM Symposium on Principles of Programming Languages, 2002; IEEE Symposium on Logic in Computer Science, 2002; IEEE Symposium on Foundations of Computer Science, 2002; Workshop on Hybrid Systems: Computation and Control, 2003; ACM Conference on Languages, Compilers, and Tools for Embedded Systems, 2003; Conference on Concurrency Theory, 2003; IEEE Conference on Decision and Control, 2003; IEEE Symposium on Logic in Computer Science, 2004; IEEE Conference on Decision and Control, 2004; Symposium on Theoretical Aspects of Computer Science, 2005; Foundations of Software Technology and Theoretical Computer Science, 2005; Conference on Verification, Model Checking, and Abstract Interpretation, 2006; ACM Symposium on Principles of Programming Languages, 2008; ACM Conference on Programming Language Design and Implementation, 2008; ACM Symposium on Principles of Programming Languages, 2011.

## Other Referee

ACM Distinguished Dissertation Award; Agence Nationale de la Recherche, France; Army Research Office; Austrian Fonds zur Förderung wissenschaftlicher Forschung; Christian-Doppler Forschungsgesellschaft, Austria; Czech Science Foundation; Deutsche Forschungsgemeinschaft; Dutch Technology Foundation STW; German-Israeli Foundation for Scientific Research and Development; GULP Dissertation Award, Italy; INRIA, France; Israel Science Foundation; Italian Ministry for Education, Universities, and Research; NASA Technical Memoranda; National Science Foundation; Netherlands Science Research Foundation; Otto-Hahn Medal of the Max-Planck Society; Science Foundation of Ireland; Springer Lecture Notes in Computer Science; Swedish Research Council for Engineering Sciences; Swiss National Science Foundation; UK Engineering and Physical Sciences Research Council; University of California at Berkeley Extension; University of California MICRO Program; Volkswagen Stiftung, Germany.

## Other Technical Committees

- Computer-Aided Verification* (CAV), chair, Award Committee, 2012.
- Ackermann Award*, member, Jury, 2012.
- ArtistDesign EDAA Special Interest Group* (ADSIG), member, Strategic Management Board, since 2012.
- Annual IEEE Symposium on Logic in Computer Science* (LICS), member, Test-of-Time Award Committee, 2011.
- Computer-Aided Verification* (CAV), member, Award Committee, 2011.
- International Workshop on Formal Modeling and Analysis of Timed Systems* (FORMATS), member, Steering Committee, since 2010.
- Austrian Society for Rigorous Systems Engineering* (ARiSE), member, Executive Board, since 2010.
- European Coordinated Research on Long-term Challenges in Information and Communication Sciences and Technologies ERANET* (CHIST-ERA), member, Scientific Advisory Board, since 2010.
- Multilevel Adaptive Modeling of Biological Systems*, French research consortium, member, Scientific Advisory Board, since 2010.
- Max-Planck Institute for Software Systems*, member, Scientific Advisory Board, since 2008.
- International Workshop on Formal Methods in Systems Biology* (FMSB), founding member, Steering Committee, since 2008.
- Computer-Aided Verification* (CAV), chair, Award Committee, 2008.
- ArtistDesign EU Network of Excellence*, member, Strategic Management Board, 2008–2012.
- Annual IEEE Symposium on Logic in Computer Science* (LICS), member, Advisory Board, since 2006.
- European Research Training Network on Games and Automata for Synthesis and Validation* (GAMES), member, Steering Committee, 2006–09.
- Annual ACM Conference on Embedded Software* (EMSOFT), chair, Advisory Board, since 2005.
- Annual ACM Conference on Embedded Software* (EMSOFT), founding member and chair, Steering Committee, 2001–2005.
- ACM Special Interest Group on Embedded Systems* (SigBed), founding member, Executive Board, 2002–05.
- QPQ Deductive Software Repository*, member, Advisory Board, since 2002.
- First Sino-Euro-American Workshop on the Scientific Foundations of Informatics as an Engineering Discipline* (Macao), member, Steering Committee, 2001.
- First NASA HDCC Workshop on High Dependability Computing* (Mountain View, California), invited participant, Working Group on Formal Methods, 2001.
- Third IMACS International Multiconference on Circuits, Systems, Communications, and Computers* (Athens, Greece), member, Scientific Committee, 1999.
- International Workshop on Current Trends in Applied Formal Methods* (Boppard, Germany), member, Advisory Board, 1998.
- International Workshop on Hybrid Systems: Computation and Control*, founding member, Steering Committee, 1997–2000.
- DARPA ISAT Meeting*, invited participant, Working Group on Complex Systems, 1997.
- ACM Workshop on Strategic Directions in Computing Research*, invited participant, Working Group on Concurrency and Working Group on Formal Methods, 1996.

## Member of Professional Organizations

American Association for the Advancement of Science.  
Association for Computing Machinery (SigAct, SigBed, SigDA, SigPlan).  
Association for Symbolic Logic.  
Austrian Society for Rigorous Systems Engineering.  
European Association for Theoretical Computer Science.  
IEEE (Computer Society).  
Sigma Xi.

## Consulting

Wind River Systems, Alameda, California, 2002.  
Scientific Systems Company, Woburn, Massachusetts, 2001.  
Digital Equipment Corporation Systems Research Center, Palo Alto, California, 1996–1999.  
GammaTech, Ithaca, New York, 1995–1996.

## Research Grants

1. Principal Investigator, European Research Council (ERC), Advanced Investigator Grant 267989, QUAREM: *Quantitative Reactive Modeling*, 5/2011–4/2016. EUR 2'326'000.
2. Principal Investigator, Austrian Science Foundation (FWF), NFN Grant S11402-N23, *Modern Concurrency Paradigms*, 3/2011–3/2015. EUR 455'616.
3. Principal Investigator, Microsoft Research Education Studio Award, *Automated Tutoring System for Automata Theory*, 2/2011. USD 10'000.
4. Principal Investigator (jointly with V. Kuncak and M. Odersky), Microsoft Research, *A Workbench for Ensuring Embedded Software Quality and Reliability*, 9/2008–8/2012. CHF 1'160'000.
5. Principal Investigator, Swiss National Science Foundation (SNF), SystemsX Grant 2008/040, *Rule-based Models for Signal Transduction*, 9/2008–8/2011. CHF 172'000.
6. Principal Investigator, European Commission, Subcontract to FP7 Grant ICT-STREP-215543 (J. Sifakis, Verimag, Grenoble, PI), COMBEST: *Component-based Embedded Systems Design Techniques*, 1/2008–12/2010. EUR 338'000.
7. Principal Investigator, European Commission, Subcontract to Grant ICT-NoE-214373 (J. Sifakis, Verimag, Grenoble, PI), ARTISTDESIGN: *Embedded Systems Design*, 1/2008–12/2012. EUR 118'000.
8. Principal Investigator, Microsoft Postgraduate Research Studentship, *Combining Software Verification and Testing*, 10/2007–9/2010. EUR 100'000.
9. Principal Investigator, Swiss National Science Foundation (SNF), Grant 205321-111840, *Formal Modeling of Cell-Fate Decisions*, 9/2006–12/2010. CHF 403'000.
10. Principal Investigator, Swiss National Science Foundation (SNF), Indo-Swiss Joint Research Programme, *Games in System Design and Verification*, 12/2005–11/2009. CHF 150'000.
11. Principal Investigator, Swiss National Science Foundation (SNF), Subcontract to National Center of Competence in Research (K. Aberer, EPFL, PI), *Mobile Information and Communication Systems*, 11/2005–10/2009. CHF 162'000.

12. Principal Investigator, Swiss National Science Foundation (SNF), Grant 200021-107600, *Interface-based Software Design and Verification*, 10/2005–9/2009. CHF 256'000.
13. Principal Investigator, European Commission, Subcontract to Grant IST-NoE-004527 (J. Sifakis, Verimag, Grenoble, PI), ARTIST2: *Embedded Systems Design*, 3/2005–8/2009. EUR 141'000.
14. Co-Principal Investigator, National Science Foundation (NSF), Information Technology Research Initiative, Grant ITR-0326577 (A. Aiken, University of California, Berkeley, PI), *Language-based Security*, 9/2003–8/2007. USD 900'000.
15. Principal Investigator, National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA), Subcontract to Grant CCR-0234690 (L. de Alfaro, University of California, Santa Cruz, PI), *Interfaces and Model Checking for Software*, 9/2002–8/2006. USD 200'000.
16. Co-Principal Investigator, National Science Foundation (NSF), Information Technology Research Initiative, Grant CCR-0225610 (S. Sastry, University of California, Berkeley, PI), *Foundations of Hybrid and Embedded Software Systems*, 9/2002–8/2007. USD 13'600'000.
17. Principal Investigator, National Science Foundation (NSF), Grant CCR-0208875, *Towards Predictability and Portability in Embedded Software*, 9/2002–8/2006. USD 225'000.
18. Principal Investigator, Office of Naval Research (ONR), Grant N00014-02-1-0671, *Rich Interfaces for Component-based Design*, 5/2002–4/2005. USD 600'000.
19. Principal Investigator, National Science Foundation (NSF) and Defense Advanced Research Projects Agency (DARPA), Subcontract to Grant 285915D (Joe Cross, Lockheed Martin, PI), *National Experimental Platform for Hybrid and Embedded Systems Technology*, 2/2002–7/2003. USD 188'000.
20. Principal Investigator, National Science Foundation (NSF), Grant CISE-0131213, *Workshop on Embedded Software*, 9/2001–12/2001. USD 15'000.
21. Principal Investigator, California MICRO Program, Grant 01-037, and Wind River Systems, *Embedded Systems Development with GIOTTO*, 9/2001–12/2002. USD 31'000.
22. Principal Investigator, National Science Foundation (NSF), Grant CCR-9988172, *Games, Time, and Probability in Model Checking*, 9/2000–8/2004. USD 310'000.
23. Co-Principal Investigator, National Science Foundation (NSF), Information Technology Research Initiative, Grant CCR-0085949 (A. Aiken, University of California, Berkeley, PI), *The Open Source Quality Project*, 9/2000–8/2004. USD 2'942'000.
24. Principal Investigator, Defense Advanced Research Projects Agency (DARPA), Subcontract to Grant F33615-00-C-1693 (Z. Manna, Stanford University, PI), *Automating the Development and Analysis of Embedded Systems*, 9/2000–8/2003. USD 1'147'000.
25. Co-Principal Investigator, Defense Advanced Research Projects Agency (DARPA), Grant F33615-00-C-1703 (E.A. Lee, University of California, Berkeley, PI), *Process-based Software Components for Networked Embedded Systems*, 5/2000–11/2003. USD 2'000'000.
26. Principal Investigator, Air Force Office of Scientific Research (AFOSR), Multi-University Research Initiative, Grant F49620-00-1-0327, *Real-Time Fault-Tolerant Networks*, 5/2000–4/2005. USD 2'978'000.
27. Principal Investigator, Defense Advanced Research Projects Agency (DARPA), Subcontract to Grant F33615-99-C-1500 (Don Winter, Boeing Corporation, PI), *Open Control Platform*, 3/2000–8/2001. USD 143'000.
28. Principal Investigator, Semiconductor Research Corporation (SRC), Contract 99-TJ-683.003, *Compositional and Hierarchical Verification using MOCHA*, 7/1999–6/2002. USD 624'000.

29. Co-Principal Investigator, Microelectronics Advanced Research Corporation, Grant 98-DT-660, and Defense Advanced Research Projects Agency (DARPA), Grant MDA972-99-1-0001 (A.R. Newton, University of California, Berkeley, PI), *Design and Test of Gigascale Integrated Systems*, 10/1998–8/2003. USD 18'479'000.
30. Co-Principal Investigator, Defense Advanced Research Projects Agency (DARPA), Grant F33615-C-98-3614 (S. Sastry, University of California, Berkeley, PI), *Integrated Design and Analysis Tools for Software-based Control Systems*, 8/1998–7/2003. USD 3'512'000.
31. Principal Investigator, Defense Advanced Research Projects Agency (DARPA), Grant NAG2-1214, MOCHA: *Modularity in Model Checking*, 8/1998–7/2000. USD 850'000.
32. Principal Investigator, Semiconductor Research Corporation (SRC), Contract 97-DC-324.041, *Compositional and Hierarchical Verification using MOCHA*, 1/1998–6/1999. USD 137'000.
33. Principal Investigator, Semiconductor Research Corporation (SRC), Contract 96-DC-324.036, *Efficient Verification of Reactive Modules*, 1/1997–12/1997. USD 94'000.
34. Principal Investigator, Army Research Office (ARO), Multi-University Research Initiative, Subcontract to Grant DAAH-04-96-1-0341 (S. Sastry, University of California, Berkeley, PI), *An Integrated Approach to Intelligent Systems*, 9/1996–8/1997. USD 38'000.
35. Principal Investigator, Semiconductor Research Corporation (SRC), Contract 95-DC-324.036, *A Unifying Framework for Computer-Aided Verification*, 1/1996–12/1996. USD 93'000.
36. Principal Investigator, National Science Foundation (NSF), Grant CCR-9504469, *Algorithms and Tools for the Automatic Analysis of Embedded Systems*, 9/1996–8/1998. USD 135'000.
37. Principal Investigator, National Science Foundation (NSF), Faculty Early Career Development Award, Grant CCR-9501708, *Computer-Aided Verification*, 8/1995–7/1999. USD 133'000.
38. Principal Investigator, Office of Naval Research (ONR), Young Investigator Award, Grant N00014-95-1-0520, *Algorithms and Tools for the Automatic Analysis of Embedded Systems*, 6/1995–5/1998. USD 235'000.
39. Principal Investigator, National Science Foundation (NSF), Grant GER-9454149, *Computational Aspects of Cognitive Science*, 9/1994–8/1999. USD 563'000.
40. Principal Investigator, Defense Advanced Research Projects Agency (DARPA), Subcontract to Grant NAG2-892 (Z. Manna, Stanford University, PI), *Software Development Technologies for Reactive, Real-Time, and Hybrid Systems*, 4/1994–3/1998. USD 453'000.
41. Principal Investigator, Hitachi Corporation, *Design of a Real-Time Control Language*, 2/1993–7/1993. USD 20'000.
42. Principal Investigator, Air Force Office of Scientific Research (AFOSR), Grant F49620-93-1-0056, *Automatic Methods and Tools for the Verification of Real-Time Systems*, 12/1992–11/1997. USD 441'000.
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