Kenneth L. McMillan

General information

Affiliation	Principal Researcher, Microsoft Research
Office Address	One Microsoft Way Redmond, WA 98052
Office phone	(425) 722-6417
Home address	1050 151st Ave. SE Bellevue, WA 98007
Home phone	(425) 214-1360
Web site	http://mcmil.net
Born	09/01/1962, Champaign, Illinois

Education

Carnegie Mellon University. Ph.D. in Computer Science, 1992.

Thesis: *Symbolic Model Checking: an approach to the state explosion problem*.
Advisor: Edmund Clarke.

Stanford University. M.S. in Electrical Engineering, 1985.

University of Illinois at Urbana. B.S. in Electrical Engineering.

Highest University Honors (Bronze Tablet), High College Honors.

Professional Experience

10/10 -	Principal Researcher, Microsoft Research
05/06 - 08/10	Fellow, Cadence Research Labs
5/94 – 05/06	Research Scientist, Cadence Berkeley Labs
4/93 - 4/94	Member of Technical Staff, AT&T Bell Laboratories, Murray Hill, NJ.
9/87 - 3/93	Various consulting (during and after graduate studies): • Sun Microsystems (hardware verification) • AT&T Bell Labs (protocol verification) • BULL CRG, Louveciennes, Fr. (hardware verification) • Network Computing Devices (protocol implementation)

- Encore Computer (hardware verification)

10/86 - 8/87 Engineering consultant, Siegen Corporation, Sunnyvale, CA.
- Developed digital signal processing and graphics software for EEG test and analysis.

2/86 - 8/86 Development Engineer, WYSE Technology, San Jose, CA.
- ASIC design

6/85 - 2/86 Biomedical Engineer, VA RR&D Center, Palo Alto, CA.
- Hardware/software design for real time EMG analysis

9/94 - 5/85 (In MSEE program at Stanford)

1/84 - 5/84 Teaching assistant, Univ. of Ill. Dept. of Electrical Eng.

6/83 - 8/83 Computer consultant, AT&T Bell Labs
- Image acquisition and processing software

5/79 - 7/84 Part time computer consultant, Univ. of Ill. Dept. of Physiology (during undergraduate study).
- Automated data collection for neurophysiology studies

Awards

- 2014 POPL Most Influential Paper Award
- 2010 LICS Test-of-time Award
- 2010 CAV (Computer-Aided Verification) Award
- 2008 HVC Award (HAIFA Verification conference)
- 2008 EASST Best Paper Award (ETAPS 2008)
- **1998 ACM Paris Kanellakis Theory and Practice Award**
- 1998 Allen Newell Research Excellence Medal, Carnegie Mellon University.
- 1996 SRC Technical Excellence Award
- **1992 ACM Doctoral Dissertation Award**

Fellowships

- AT&T Bell Laboratories Ph.D. Scholarship (1989 - 1992)
- General Electric first year graduate fellowship (1984)

Invited talks at conferences

- CAV 2019: What is the Use of a Specification?
- VMCAI 2018: How to Stay Decidable
- IJCAR 2014: Structured Search and Learning
- Clarke Symposium 2014: Structured Solvers
- NFM 2013: The Importance of Generalization in Automated Proof
- Formal Methods: Foundations and Applications (SBMF 2013): Deductive Generalization
- LPAR 2012: Relevant Generalization
- MEMOCODE 2012: Symbolic Tools for Program Proving
- SAS 2011: Interpolation and Widening
- FMCAD 2008: Interpolation: Theory and Applications
- POPL 2008: Relevance Heuristics for Program Analysis
- HVC 2008: Proofs, Interpolants, and Relevance Heuristics
- ATVA 2007: Toward Property Driven Abstraction for Heap Manipulating Programs
- FMCAD 2006: What can the SAT Experience Teach us About Abstraction?
- ETAPS 2005: Applications of Craig Interpolation in Model Checking
- ATPN 2005: Applications of Craig's Interpolation to Model Checking
- SAT 2004: The Behavior of SAT Solvers in Model Checking Application
- TPHOLS 2004: Applications of Craig Interpolation to Model Checking
- CSL 2004: Applications of Craig Interpolation to Model Checking
- MEMOCODE 2003: Methods for exploiting SAT solvers in unbounded model checking
- SAS 2003: Craig Interpolation and Reachability Analysis
- LICS 2000: Some Strategies for Proving Theorems with a Model Checker
- FMCAD 1998: Minimalist Proof Assistants: Interactions of Technology and Methodology in Formal System Level Verification
- FSTTCS 1998: The SMV proof assistant: Interactions of technology and methodology in formal system level hardware verification

Invited talks at workshops

- The Best of Model Checking, Workshop in Honor of Orna Grumberg (CAV 2019): How Hard is Compositional Proof?

- 5th Workshop on Formal Reasoning in Distributed Algorithms (FRIDA 2018): Verifying Distributed Systems with Ivy
- CAV 2017 David Dill @ 60: Anonymity and Murphi
- The Midwest Verification Day 2017: Testing Composable Specifications with Ivy
- CAV 2016 Verification Mentoring Workshop: The Model Checking Paradigm
- ETH Workshop on Software Reliability and Correctness 2015: Human-Machine Interaction in Invariance Proofs
- Interpolation: From Proofs to Applications (iPRA 2014): Interpolation Strategies
- NASA Formal Methods (NFM 2013): The Importance of Generalization in Automated Proof
- DATE 2013 Workshop in Honor of Bob Brayton: Combining Algorithms to Solve Intractable Problems
- CAV 2013 Workshop on Interpolation: Revisiting Generalizations
- SVARM 2013: Logic as the Lingua Franca of Software Verification
- FMICS 2009: What's in common between Test, Model checking, and Decision Procedures?
- AHA 2007: Toward Property Driven Abstraction for Heap Manipulating Programs
- SSPV 2006: SAT, interpolants, and software model checking
- 25MC 2006: The Evolution of Symbolic Model Checking
- Newton Institute Workshop 2006: Consequence Generation, Interpolants, and Invariant Discovery
- EMC2 workshop (2006): Proofs, Interpolants and Abstractions
- BMC 2003: Exploiting SAT solvers in unbounded model checking
- DCC 2002: Verifying a Commercial Microprocessor Design at the RTL level
- AVOCS 2002: Structural vs. Functional Proof Decompositions
- FEmSys 2001: Functional Decompositions for Hardware Verification
- SMC 1999 (FloC'99): Compositional Methods and Symbolic Model Checking
- MOVEP 1998: Introduction to Model Checking

Conference Tutorials

- SAS 2018: Deductive Verification in Decidable Fragments with Ivy
- ETAPS 2017: Testing Composable Specifications with Ivy

- HLDVT 2016: Testing Composable Specifications
- VMCAI 2007: Interpolants and Symbolic Model Checking
- ATVA 2007: Interpolants and Abstraction
- CAV 2005: Automated Abstraction Refinemen (with Thomas Ball)
- CAV 2003: SAT and Model Checking
- ICCAD 2003: Recent Advances in Formal Verification (with Pei-Hsin Ho and Vigyan Singhal)
- ICCAD 2000: Symbolic Model Checking: Principles and Advanced Techniques (with K. Ravi and F. Somenzi)
- CAV 1998: Model Checking for Beginners: A Tutorial Introduction to Finite-State Verification (with R. Kurshan)
- 35th DAC (1998): Embedded Tutorial: Targeted Formal Verification
- NATO ASI Summer School on Verification of Digital and Hybrid Systems (1997): Model Checking
- 33rd DAC (1996): Verification Technologies and Design Methodologies (with A. Saldhana and P. McGeer)
- 31st DAC (1994): Fitting Formal Methods into the Design Cycle

Short courses and tutorials

- VMCAI Winter School, Lisbon, 2019.
- Second Summer School on Formal Techniques, Menlo College, Atherton, 2012.
- First Summer School on Formal Techniques, Menlo College, Atherton, 2011.

Conference steering committee membership

- CAV (Computer-Aided Verification)

Conferences Co-chaired

- LPAR 19 (2013): Logic for Programming Artificial Intelligence and Reasoning
- VMCAI 2014: Verification Model Checking and Abstract Interpretation

Conference Program Committee Memberships

CAV 2019, FMCAD 2019, NASA Formal Methods 2019, CAV 2018, FMCAD 2018, NASA Formal Methods 2018, VMCAI 2018, CADE 2017, CAV 2017, FMCAD 2017, CAV 2016, FMCAD 2016, LPAR 2016, NASA

Formal Methods 2016, ATVA 2015, CADE 2015, CAV 2015, FMCAD 2015, TACAS 2015, VMCAI 2015, CAV 2013, FMCAD 2012, HVC 2012, NFM 2012, SMT 2012, TACAS 2012, CAV 2012, CAV 2011, FMCAD 2011, POPL 2011, NFM 2011, FMCAD 2010, TACAS 2010, VMCAI 2010, CAV 2010, ATVA 2010, HVC 2010, CAV 2009, FMCAD 2009, TACAS 2009, CAV 2008, FMCAD 2008, HVC 2008, ATVA 2008, CAV 2007, FMCAD 2007, HVC 2007, VMCAI 2007, CAV 2006, FMCAD 2006, TACAS 2006, CAV 2005, CHARME 2005, VMCAI 2005, CAV 2004, FMCAD 2004, ICCAD 2004, CAV 2003, CHARME 2003, ICCAD 2003, CAV 2002, FMCAD 2002, FORTE 2002, ICCAD 2002, CAV 2001, DATE 2001, CAV 2000, CAV 1999, CHARME 1999, CAV 1998, CAV 1997, LICS 1997, CAV 1996, CAV 1995, ICCAD 1994

Workshop Program Committee Memberships

DIFTS 2011, BMC 2006, BMC 2005, BMC 2004, BMC 2003

Classes taught

- EE290H: Verification theory and practice, EECS Dept., UC Berkeley, Fall 1994.

Publications

Books

K. L. McMillan, *Symbolic Model Checking*, Kluwer Academic Publishers, 1993.

Book Chapters and Inclusions

K. L. McMillan, "Interpolation and Model Checking", Chapter in Handbook of Model Checking., 2018.

N. Bjørner, A. Gurfinkel, K. L. McMillan, A. Rybalchenko, "Horn Clause Solvers for Program Verification", In Fields of Logic and Computation II - Essays Dedicated to Yuri Gurevich on the Occasion of His 75th Birthday, 2015.

H. C. Pais, E. M. Sentovich, A. T. Freitas, A. L. Oliveira and K. L. McMillan, “Improved Model Checking Techniques for State Space Analysis of Gene Regulatory Networks”, in S. Das, D. Caragea, S. M. Welch, W. H. Hsu, eds., *Handbook of Research on Computational Methodologies in Gene Regulatory Networks*, IGI Global, 2009.

L. Fix and K.L. McMillan, “Formal Property Verification”, in L. Scheffer, L. Lavagno and G. Martin, eds, *EDA for IC System Design, Verification and Testing*, pp. 20-1—20-11, Tayler and Francis, 2006.

L. P. Carloni, K. L. McMillan, A. Saldhana and A. L. Sangiovanni-Vincenteelli, “A Methodology for Correct-by-Construction Latency Insensitive Design”, in A. Kuehlmann, ed., The Best of ICCAD: 20 Years of Excellence in Computer-Aided Design”, pp. 143-58, Kluwer Academic Publishers, 2003.

K. L. McMillan, “Model Checking”, in A. Ralston, E.D. Reilly and D. Hemmendinger, eds., *Encyclopedia of Computer Science, 4th Edition,* pp. 1177-81, Nature Publishing Group, 2000.

Journal Articles

A. Gupta., K. L. McMillan, Z. Fu, "Automated assumption generation for compositional verification", *Formal Methods in System Design*, 32(3), 285-301, 2008.

Ranjit Jhala, Kenneth L. McMillan, "Interpolant-Based Transition Relation Approximation", *Logical Methods in Computer Science* 3(4), 2007.

R. Alur, K. L. McMillan, D. Peled, "Deciding Global Partial-Order Properties", *Formal Methods in System Design* 26(1), 7-25, 2005.

K. L. McMillan, "An interpolating theorem prover", *Theor. Comput. Sci.* 345(1), 101-121, 2005.

R. Alur, K. McMillan and D. Peled, "Model-checking of correctness conditions for concurrent objects", *Information and Computation*, 160(1-2), 167-88, 2000.

Y. Hong. P. A. Beerel, J. R. Burch and K. L. McMillan, "Sibling-substitution-based BDD minimization using don't cares", *IEEE Trans. on Computer-Aided Design of Integrated Circuits and Systems*, 19(1) , 44-55, 2000.

K. L. McMillan, "A methodology for hardware verification using compositional model checking", *Science of Computer Programming*, 37, (1-3), 279-309, 2000.

E. M. Clarke, K. L. McMillan, X. Zhao, M. Fujita and J. Yang, "Spectral transforms for large Boolean functions with applications to technology mapping", Formal *Methods in System Design*, 10(2-3), 137-48, 1997.

K. L. McMillan, "A Technique of State Space Search Based on Unfoldings", *Formal Methods in System Design*, 6, pp. 45-65, 1995.

R. P. Kurshan and K. L. McMillan, "A Structural Induction Theorem for Processes", *Information and Computation*, 117(1), 1995.

E. M. Clarke, O. Grumberg, H. Hiraishi, S. Jha, D. E. Long, K. L. McMillan and L. A. Ness, "Verification of the Futurebus+ cache coherence protocol", *Formal Methods in System Design*, 6(2), 217-32, 1995.

J. R. Burch, E. M. Clarke, D. E. Long, K. L. McMillan and D. L. Dill, "Symbolic Model Checking for Sequential Circuit Verification", *IEEE Trans. Comput.-Aided Des. Integr. Circuits Syst*., 13(4), 401-24, 1994.

J. R. Burch, E. M. Clarke, K. L. McMillan, D. L. Dill, L. J. Hwang, "Symbolic Model Checking: 10^{20} states and beyond", *Information and Computation*, 98(2), 142-70, 1992.

E. M. Clarke, J. R. Burch, O. Grumberg, D. E. Long and K. L. McMillan, "Automatic verification of sequential circuit designs", *Philosophical Transactions of the Royal Society, Series A*, 339(1652), 1105-20, 1992.

E. M. Clarke, D. E. Long and K. L. McMillan, "A language for compositional specification and verification of finite state hardware controllers", *Proceedings of the IEEE*79(9), 1283-92, 1991.

R. Kurshan and K. L. McMillan, "Analysis of Digital Circuits through Symbolic Reduction", *IEEE Trans. Comput.-Aided Des. Integr. Circuits Syst*.,10(11), 1356-71, 1991.

Conference proceedings

K. L. McMillan and L. D. Zuck, "Compositional Testing of Network Protocols", In IEEE Secure Development Conference (SecDev 2019), 2019.

K. L. McMillan and L. D. Zuck, "Formal specification and testing of QUIC", In Proceedgins of. ACM Special Interest Group on Data Communication (SIGCOMM'19), ACM, 2019.

X. Wang and G. Anderson and I. Dillig and K. L. McMillan, "Learning Abstractions for Program Synthesis", In CoRR, volume abs/1804.04152, 2018.

L. D. Zuck and K. L. McMillan and J. Torf, "P\^5 : Planner-less Proofs of Probabilistic Parameterized Protocols", In Verification, Model Checking, and Abstract Interpretation - 19th International Conference, VMCAI 2018, Los Angeles, CA, USA, January 7-9, 2018, Proceedings, 2018.

K. L. McMillan and O. Padon, "Deductive Verification in Decidable Fragments with Ivy", In Static Analysis - 25th International Symposium, SAS 2018, Freiburg, Germany, August 29-31, 2018, Proceedings (Andreas Podelski, ed.), Springer, volume 11002, 2018.

M. Taube and G. Losa and K. L. McMillan and O. Padon and M. Sagiv and S. Shoham and J. R. Wilcox and D. Woos, "Modularity for decidability of deductive verification with applications to distributed systems", In Proceedings of the 39th ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI 2018, Philadelphia, PA, USA, June 18-22, 2018, 2018.

O. Padon and J. Hoenicke and K. L. McMillan and A. Podelski and M. Sagiv and S. Shoham, "Temporal Prophecy for Proving Temporal Properties of Infinite-State Systems", In 2018 Formal Methods in Computer Aided Design, FMCAD 2018, Austin, TX, USA, October 30 - November 2, 2018 (Nikolaj Bjørner, Arie Gurfinkel, eds.), IEEE, 2018.

X. Wang and G. Anderson and I. Dillig and K. L. McMillan, "Learning Abstractions for Program Synthesis", In Computer Aided Verification - 30th International Conference, CAV 2018, Held as Part of the Federated Logic Conference, FloC 2018, Oxford, UK, July 14-17, 2018, Proceedings, Part I (Hana Chockler, Georg Weissenbacher, eds.), Springer, volume 10981, 2018.

K. L. McMillan, "Eager Abstraction for Symbolic Model Checking", In Computer Aided Verification - 30th International Conference, CAV 2018, Held as Part of the Federated Logic Conference, FloC 2018, Oxford, UK, July 14-17, 2018, Proceedings, Part I (Hana Chockler, Georg Weissenbacher, eds.), Springer, volume 10981, 2018.

I. Dillig and T. Dillig and B. Li and K. L. McMillan and M. Sagiv, "Synthesis of circular compositional program proofs via abduction", In STTT, volume 19, 2017.

O. Padon and K. L. McMillan and A. Panda and M. Sagiv and S. Shoham, "Ivy: safety verification by interactive generalization", In Proceedings of the 37th ACM SIGPLAN Conference on Programming Language Design and Implementation, PLDI 2016, Santa Barbara, CA, USA, June 13-17, 2016, 2016.

K. L. McMillan, "Modular specification and verification of a cache-coherent interface", In 2016 Formal Methods in Computer-Aided Design, FMCAD 2016, Mountain View, CA, USA, October 3-6, 2016, 2016.

A. Komuravelli, N. Bjorner, A. Gurfinkel and K. L. McMillan, "Compositional Verification of Procedural Programs using Horn Clauses over Integers and Arrays", In Formal Methods in Computer-Aided Design, FMCAD 2015, Austin, Texas, USA, September 27-30, 2015.

K. L. McMillan, "Lazy Annotation Revisited", In Computer Aided Verification - 26th International Conference, CAV 2014, Held as Part of the Vienna Summer of Logic, VSL 2014, Vienna, Austria, July 18-22, 2014. Proceedings, 2014.

A. Albarghouthi, K. L. McMillan, "Beautiful Interpolants", CAV 2013, pp. 313-329.

I. Dillig, T. Dillig, B. Li, K. L. McMillan, "Inductive Invariant Generation via Abductive Inference", OOPSLA 2013, pp. 443-456.

N Bjørner, K. L. McMillan, A. Rybalchenko, “On Solving Universally Quantified Horn Clauses”, SAS 2013, pp. 105-125.

K. L. McMillan, “Deductive Generalization”, Formal Methods: Foundations and Applications (SBMF 2013), p. 17.

S. K. Lahiri, K. L. McMillan, R. Sharma, C. Hawblitzel, “Differential Assertion Checking”, FSE 2013, pp. 345-355.

B. Li, I. Dillig, T. Dillig, K. L. McMillan, M. Sagiv, “Synthesis of Circular Compositional Program Proofs via Abduction”, TACAS 2013, pp. 370-384.

I. Dillig, T. Dillig, K. L. McMillan, A. Aiken, “Minimum Satisfying Assignments for SMT”, CAV 2012, pp. 394-409.

T. Ball, N. Bjørner, L. M. de Moura, K, L. McMillan, M. Veanes: Beyond First-Order Satisfaction: Fixed Points, Interpolants, Automata and Polynomials, SPIN 2012, pp 1-6.

K. L. McMillan, “Interpolants from Z3 proofs”, FMCAD 2011, pp. 19-27.

K. L. McMillan, “Widening and Interpolation”, SAS 2011, p. 1.
,
K. L. McMillan, L. D. Zuck, “Invisible Invariants and Abstract Interpretation”, SAS 2011, pp. 249-262.

K. L. McMillan, “Lazy Annotation for Program Testing and Verification”, CAV 2010, pp. 104-118.

K. L. McMillan, A. Kuehlmann, M. Sagiv, “Generalizing DPLL to Richer Logics”, CAV 2009, pp. 462-476,

K. L. McMillan, “What's in Common between Test, Model Checking, and Decision Procedures?” FMICS 2009, pp. 35-36.

K. L. McMillan, L. D. Zuck, “Abstract Counterexamples for Non-disjunctive Abstractions”, RP 2009, pp. 176-188.

K. L. McMillan, “Relevance heuristics for program analysis”, POPL 2008, pp. 145-146.

K. L. McMillan, "Quantified Invariant Generation Using an Interpolating Saturation Prover", TACAS 2008, 413-427.

R. Jhala, K. L. McMillan, "Array Abstractions from Proofs", CAV 2007, 193-206.

A. Gupta, K. L. McMillan, Z. Fu, "Automated Assumption Generation for Compositional Verification", CAV 2007, 420-432.

N. Amla, K. L. McMillan. "Combining Abstraction Refinement and SAT-Based Model Checking", TACAS 2007, 405-419.

K. L. McMillan, “Toward Property-Driven Abstraction for Heap Manipulating Programs:, ATVA 2007, pp. 17-18.

K. L. McMillan, “Interpolants and Symbolic Model Checking”, VMCAI 2007, pp. 89-90.

K. L. McMillan, "Lazy Abstraction with Interpolants", CAV 2006, 123-136.

Y. Fang, K. L. McMillan, A. Pnueli, L. D. Zuck, "Liveness by Invisible Invariants", FORTE 2006, 356-371.

R. Jhala, K. L. McMillan, "A Practical and Complete Approach to Predicate Refinement", TACAS 2006, 459-473.

R. Jhala and K. L. McMillan, "Interpolant-based Transition Relation Approximation", CAV 2005.

K. L. McMillan, "Applications of Craig Interpolation in Model Checking", TACAS 2005.

N. Amla, X. Du, A. Kuehlmann, R. P. Kurshan, K. L. McMillan. "An Analysis of SAT-Based Model Checking Techniques in an Industrial Environment", CHARME 2005, 254-268.

K. L. McMillan, "Don't-Care Computation using k-clause Approximation", IWLS 2005.

N. Amla, K. L. McMillan, "A Hybrid of Counterexample-Based and Proof-Based Abstraction", FMCAD 2004, pp. 260-274.

T. A. Henzinger, R. Jhala, R. Majumdar, K. L. McMillan, "Abstractions from proofs", POPL 2004, pp. 232-244.

K. L. McMillan, "An Interpolating Theorem Prover", TACAS 2004, pp. 16-30.

K. L. McMillan, "Interpolation and SAT-Based Model Checking", CAV 2003, pp. 1-13.

K. L. McMillan, "Craig Interpolation and Reachability Analysis", SAS 2003, pp. 336.

K. L. McMillan, Nina Amla, "Automatic Abstraction without Counterexamples", TACAS 2003, pp. 2-17.

K. L. McMillan, "Methods for exploiting SAT solvers in unbounded model checking", MEMOCODE 2003, p. 135.

N. Amla, R. P. Kurshan, K. L. McMillan, R. Medel, "Experimental Analysis of Different Techniques for Bounded Model Checking", TACAS 2003, pp. 34-48.

K. L. McMillan, "Applying SAT Methods in Unbounded Symbolic Model Checking", CAV 2002, pp. 250-264.

Ranjit Jhala, K. L. McMillan, "Microarchitecture Verification by Compositional Model Checking", CAV 2001, pp. 396-410.

K. L. McMillan, "Parameterized Verification of the FLASH Cache Coherence Protocol by Compositional Model Checking", CHARME 2001, pp. 179-195.

K. L. McMillan, Shaz Qadeer, James B. Saxe, "Induction in Compositional Model Checking", CAV 2000, pp. 312-327.

K. L. McMillan, "Some Strategies for Proving Theorems with a Model Checker", LICS 2000, pp. 305-306.

K. L. McMillan, "Verification of infinite state systems by compositional model checking", CHARME'99, pp.219-33.

K. L. McMillan, "Circular compositional reasoning about liveness", CHARME'99, pp.342-5.

L. P. Carloni, K. L. McMillan, A. Saldanha and A. L. Sangiovanni-Vincentelli, "A methodology for correct-by-construction latency insensitive design", pp. 309-15.

L. P. Carloni, K. L. McMillan and A. L. Sangiovanni-Vincentelli, "Latency insensitive protocols, CAV'99, pp.123-33.

A. Kuehlmann, K. L. McMillan and R. K. Brayton, "Probabilistic state space search", ICCAD'99, pp. 574-9.

R. Alur, K. McMillan and D. Peled, "Deciding global partial-order properties", ICALP'98, pp.41-52.

K. L. McMillan "Verification of an implementation of Tomasulo's algorithm by compositional model checking", CAV'98, pp. 110-21.

K. Ravi, K. L. McMillan, T. R. Shiple and F. Somenzi, "Approximation and decomposition of binary decision diagrams", 35th DAC (1998), pp.445-50.

K. L. McMillan, "A compositional rule for hardware design refinement", CAV'97, pp. 24-35.

Y. Hong, P. A. Beerel, J. R. Burch and K. L. McMillan, "Safe BDD minimization using don't cares", 34th DAC (1997), pp. 208-13.

K. L. McMillan, "A conjunctively decomposed Boolean representation for symbolic model checking", CAV '96.

R. Alur, K. McMillan and D. Peled, "Model-checking of correctness conditions for concurrent objects", LICS'96, pp. 219-28.

S. P. Khatri, A. Narayan, S. C. Krishnan, K. L. McMillan, R. K. Brayton and A. Sangiovanni-Vincentelli, "Engineering change in a non-deterministic FSM setting", 33rd DAC (1996), pp. 451-6.

K. L. McMillan, "Trace theoretic verification of asynchronous circuits using unfoldings", CAV'95.

A. T. Eiriksson and K. L. McMillan, "Using formal verification/analysis methods on the critical path in system design: a case study", CAV '95.

P. C. McGeer, K. L. McMillan, A. Saldanha, A. L. Sangiovanni-Vincentelli and P. Scaglia, "Fast discrete function evaluation using decision diagrams", ICCAD'95, pp. 402-7.

E. M. Clarke, O. Grumberg, K. L. McMillan and X. Zhao, "Efficient generation of counterexamples and witnesses in symbolic model checking", 32nd DAC (1995), pp. 427-32.

K. L. McMillan, "Hierarchical representation of discrete functions, with application to model checking", CAV'94, pp. 41-54.

K. L. McMillan, "Fitting formal methods into the design cycle", Proc. 31st Design Automation Conference, 1994, pp. 314-19.

E. Clarke, K. McMillan, X. Zhao, M. Fujita and J. Yang, "Spectral Transforms for Large Boolean Functions with Applications to Technology Mapping", 32nd DAC, June 1993.

E.M. Clarke, O. Grumberg, H. Hiraishi, S. Jha, D.E Long, K.L. McMillan, Ness, L.A., "Verification of the Futurebus+ cache coherence protocol", CHDL'93, pp. 15-30.

K. L. McMillan and D. L. Dill, "Algorithms for Interface Timing", ICCD '92 pp. 48-51.

K. L. McMillan, "Using unfoldings to avoid the state explosion problem in the verification of asynchronous circuits", CAV '92, pp. 164-77.

K. L. McMillan and J. Schwalbe, "Formal verification of the Encore Gigamax cache consistency protocols", Int. Symp. on Shared Memory Multiprocessors, Tokyo, Japan, 2-4 April 1991, pp. 242-51.

J. Akella and K. L. McMillan, "Synthesizing Converters between Finite State Protocols", ICCD91, pp. 410-13.

E.M. Clarke, J.R. Burch, O. Grumberg, D.E. Long, K.L. McMillan, "Automatic verification of sequential circuit designs" Mechanized Reasoning and Hardware Design; London, UK; 3-4 Oct. 1991, pp. 105-20.

J. R. Burch, E. M. Clarke, D. L. Dill and K. L. McMillan, "Sequential Circuit Verification using symbolioc model checking", 27th DAC (1990), pp. 46-51.

J. R. Burch, E. M. Clarke, K. L. McMillan, D. L. Dill, L. J. Hwang, "Symbolic Model Checking: 10^20 states and beyond", LICS'90, pp. 428-39.

E. M. Clarke, D. E. Long and K. L. McMillan, "A language for compositional specification and verification of finite state hardware controllers", CHDL'89, pp. 281-95.

E. M. Clarke, D. E. Long, and K. L. McMillan, "Compositional Model Checking", LICS'89, pp. 353-62.

R. P. Kurshan and K. L. McMillan, "A structural induction theorem for processes", POSC'89, pp. 239-47.

K.C. McGill and K.L. McMillan, "A Smart Trigger for real-time spike classification", Proc. Engineering in Medicine and Biology Society, Fort Worth, TX, USA, 7-10 Nov. 1986, vol. 1, pp. 275-8.

R. Steele, D. Hennies, J. Duluk, E. Vogel, K. McMillan, "Software modules for a hand-scanned reading aid for the blind", RESNA '86: Employing Technology. Proc. Ninth Annual Conf. on Rehabilitation Technology; Minneapolis, MN, USA; 23- 26 June 1986; pp. 43-5.

Workshop proceedings

L. D. Zuck and K. L. McMillan, "Reasoning about Network Topologies in Space", In From Programs to Systems. The Systems perspective in Computing - ETAPS Workshop, FPS 2014, in Honor of Joseph Sifakis, Grenoble, France, April 6, 2014. Proceedings, 2014.

N. Bjørner, K. L. McMillan, A. Rybalchenko, "Program Verification as Satisfiability Modulo Theories", SMT@IJCAR 2012, pp. 3-11.