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### Books, Edited Volumes

**Alex Groce** and Madanlal Musuvathi (eds). *Model Checking Software: Proceedings of the 18th International SPIN Workshop*. Springer-Verlag, LNCS 6823, 2011.

### Refereed Journal Publications

**Alex Groce**, Klaus Havelund, Gerard Holzmann, Rajeev Joshi, and Ru-Gang Xu. Establishing Flight Software Reliability: Testing, Model Checking, Constraint-Solving, Monitoring and Learning. *Annals of Mathematics and Artificial Intelligence*, accepted for publication.

Gerard Holzmann, Rajeev Joshi, and **Alex Groce**. Swarm Verification Techniques. *IEEE Transactions on Software Engineering*, PP Issue:99, December 2010.

Howard Barringer, **Alex Groce**, Klaus Havelund, and Margaret Smith. Formal Analysis of Log Files. *Journal of Aerospace Computing, Information, and Communication*, 7(11):365-390, December 2010.

**Alex Groce** and Rajeev Joshi. Exploiting Traces in Static Program Analysis: Better Model Checking through *printf*s. *International Journal on Software Tools for Technology Transfer*, 10(2):131-144, March 2008.

**Alex Groce**, Doron Peled, and Mihalīs Yannakakis. Adaptive Model Checking. *Logic Journal of the IGPL*, 14(5):729-744, October 2006.

**Alex Groce**, Sagar Chaki, Daniel Kroening, and Ofer Strichman. Error Explanation with Distance Metrics. *International Journal on Software Tools for Technology Transfer*, 8(3):229-247, June 2006.

**Alex Groce** and Willem Visser. Heuristics for Model Checking Java Programs. *International Journal on Software Tools for Technology Transfer*, 6(4):260-276, August 2004.

Sagar Chaki, Edmund Clarke, **Alex Groce**, Joel Ouaknine, Ofer Strichman, and Karen Yorav. Efficient Verification of Sequential and Concurrent C Programs. *Formal Methods in System Design, Special Issue on Software Model Checking*, 25(2-3):129-166, September-November 2004.

Sagar Chaki, Edmund Clarke, **Alex Groce**, Somesh Jha, and Helmut Veith. Modular Verification of Software Components in C. *IEEE Transactions on Software Engineering*, 30(6):388-402, June 2004.

### Refereed Conference and Workshop Publications

Milos Gligoric, **Alex Groce**, Chaoqiang Zhang, Rohan Sharma, Amin Alipour, and Darko Marinov. Comparing Non-adequate Test Suites using Coverage Criteria. *ACM International Symposium on Software Testing and Analysis*, Lugano, Switzerland, July 2013 (acceptance rate 26%), to appear.

Yang Chen, **Alex Groce**, Chaoqiang Zhang, Weng-Keen Wong, Xiaoli Fern, Eric Eide, and John Regehr. Taming Compiler Fuzzers. *ACM SIGPLAN Conference on Programming Language Design and Implementation*, pages 197-208, Seattle, Washington, June 2013 (acceptance rate 17%).

- Alex Groce**, Alan Fern, Jervis Pinto, Tim Bauer, Amin Alipour, Martin Erwig, and Camden Lopez. Lightweight Automated Testing with Adaptation-Based Programming. *IEEE International Symposium on Software Reliability Engineering*, pages 161–170, Dallas, Texas, November 2012 (acceptance rate 30%).
- Amin Alipour and **Alex Groce**. Extended Program Invariants: Applications in Testing and Fault Localization. *International Workshop on Dynamic Analysis*, pages 7–11, Minneapolis, Minnesota, July 2012.
- Alex Groce** and Martin Erwig. Finding Common Ground: Choose, Assert, and Assume. *International Workshop on Dynamic Analysis*, pages 12–17, Minneapolis, Minnesota, July 2012.
- Alex Groce**, Chaoqiang Zhang, Eric Eide, Yang Chen, and John Regehr. Swarm Testing. *ACM International Symposium on Software Testing and Analysis*, pages 78–88, Minneapolis, Minnesota, July 2012 (acceptance rate 29%).
- Alex Groce**. Coverage Rewarded: Test Input Generation via Adaptation-Based Programming. *IEEE/ACM International Conference on Automated Software Engineering*, pages 380–383, Lawrence, Kansas, November 2011 (short paper, acceptance rate 35%).
- Amin Alipour and **Alex Groce**. Bounded Model Checking and Feature Omission Diversity. *International Workshop on Constraints in Formal Verification*, San Jose, California, November 2011.
- Amber Shinsel, Todd Kulesza, Margaret Burnett, William Curran, **Alex Groce**, Simone Stumpf, and Weng-Keen Wong. Mini-Crowdsourcing End-User Assessment of Intelligent Assistants: A Cost-Benefit Study. *IEEE Symposium on Visual Languages and Human-Centric Computing*, pages 47–54, Pittsburgh, Pennsylvania, September 2011 (acceptance rate: 35%).
- Todd Kulesza, Margaret Burnett, Simone Stumpf, Weng-Keen Wong, Shubhomoy Das, **Alex Groce**, Amber Shinsel, Forrest Bice and Kevin McIntosh. Where Are My Intelligent Assistant’s Mistakes? A Systematic Testing Approach. *International Symposium on End-User Development*, pages 171–186, Brindisi, Italy, June 2011 (acceptance rate: 40%).
- Alex Groce**, Klaus Havelund, and Margaret Smith. From Scripts to Specifications: the Evolution of a Flight Software Testing Effort. *ACM/IEEE International Conference on Software Engineering*, pages 129–138, Cape Town, South Africa, May, 2010 (Software Engineering in Practice, acceptance rate: 23%).
- Alex Groce**. (Quickly) Testing the Tester via Path Coverage. *International Workshop on Dynamic Analysis*, Chicago, Illinois, July 2009.
- James Andrews, **Alex Groce**, Melissa Weston, and Ru-Gang Xu. Random Test Run Length and Effectiveness. *IEEE/ACM International Conference on Automated Software Engineering*, pages 19–28, L’Aquila, Italy, September 2008 (acceptance rate 12%).
- Gerard Holzmann, Rajeev Joshi, and **Alex Groce**. Tackling Large Verification Problems with the Swarm Tool. *SPIN Workshop on Model Checking of Software*, pages 134–143, Los Angeles, California, August 2008.
- Klaus Havelund, **Alex Groce**, Gerard Holzmann, Rajeev Joshi, and Margaret Smith. Automated Testing of Planning Models. *Workshop on Model Checking and Artificial Intelligence*, pages 90–105, Patras, Greece, July 2008.
- Alex Groce** and Rajeev Joshi. Random Testing and Model Checking: Building a Common Framework for Nondeterministic Exploration. *International Workshop on Dynamic Analysis*, pages 22–28, Seattle, Washington, July 2008.
- Alex Groce** and Rajeev Joshi. Extending Model Checking with Dynamic Analysis. *Conference on Verification, Model Checking and Abstract Interpretation*, pages 142–156, San Francisco, California, January 2008 (acceptance rate 34%).

- Nicolas Blanc, **Alex Groce**, and Daniel Kroening. Verifying C++ with STL Containers via Predicate Abstraction. *IEEE/ACM International Conference on Automated Software Engineering*, pages 521–524, Atlanta, Georgia, November 2007 (short paper, acceptance rate 25%).
- Alex Groce**, Gerard Holzmann, and Rajeev Joshi. Randomized Differential Testing as a Prelude to Formal Verification. *ACM/IEEE International Conference on Software Engineering*, pages 621–631, Minneapolis, Minnesota, May 2007 (Software Engineering in Practice, acceptance rate 27%).
- Alex Groce** and Rajeev Joshi. Exploiting Traces in Program Analysis. *International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, pages 379–393, Vienna, Austria, March-April 2006 (acceptance rate 25%).
- Daniel Kroening, **Alex Groce**, and Edmund Clarke. Counterexample Guided Abstraction Refinement via Program Execution. *International Conference on Formal Engineering Methods*, pages 224–238, Seattle, Washington, November 2004 (acceptance rate 27%).
- Sagar Chaki, **Alex Groce**, and Ofer Strichman. Explaining Abstract Counterexamples. *ACM SIGSOFT International Symposium on the Foundations of Software Engineering*, pages 73–82, Newport Beach, California, October–November 2004 (acceptance rate 15%).
- Alex Groce**, Daniel Kroening, and Flavio Lerda. Understanding Counterexamples with `explain`. *International Conference on Computer Aided Verification*, pages 453–456, Boston, Massachusetts, July 2004 (tool paper).
- Alex Groce** and Daniel Kroening. Making the Most of BMC Counterexamples. *Workshop on Bounded Model Checking*, pages 71–84, Boston, Massachusetts, July 2004.
- Alex Groce**. Error Explanation with Distance Metrics. *International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, pages 108–122, Barcelona, Spain, March-April 2004 (acceptance rate 26%).
- Sagar Chaki, Edmund Clarke, **Alex Groce**, and Ofer Strichman. Predicate Abstraction with Minimum Predicates. *Advanced Research Working Conference on Correct Hardware Design and Verification Methods*, pages 19–34, L'Aquila, Italy, October 2003 (acceptance rate 37%).
- Edjard Mota, Edmund Clarke, W. Oliveira, **Alex Groce**, J. Kanda, and M. Falcao. VeriAgent: an Approach to Integrating UML and Formal Verification Tools. *Brazilian Workshop on Formal Methods*, pages 111–129, Universidade Federal de Campina Grande, Brazil, October 2003.
- Sagar Chaki, Edmund Clarke, **Alex Groce**, Somesh Jha, and Helmut Veith. Modular Verification of Software Components in C. *ACM/IEEE International Conference on Software Engineering*, pages 385–395, Portland, Oregon, May 2003 [**ICSE SIGSOFT Distinguished Paper Award**] (acceptance rate 13%).
- Alex Groce** and Willem Visser. What Went Wrong: Explaining Counterexamples. *SPIN Workshop on Model Checking of Software*, pages 121–135, Portland, Oregon, May 2003.
- Alex Groce** and Willem Visser. Model Checking Java Programs using Structural Heuristics. *ACM International Symposium on Software Testing and Analysis*, pages 12–21, Rome, Italy, July 2002 (acceptance rate 19%).
- Alex Groce**, Doron Peled, and Mihalís Yannakakis. AMC: An Adaptive Model Checker. *International Conference on Computer Aided Verification*, pages 521–525, Copenhagen, Denmark, July 2002 (tool paper).
- Alex Groce** and Willem Visser. Heuristic Model Checking for Java Programs. *SPIN Workshop on Model Checking of Software*, pages 242–245, Grenoble, France, April 2002 (tool paper).
- Alex Groce**, Doron Peled, and Mihalís Yannakakis. Adaptive Model Checking. *International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, pages 357–370, Grenoble, France, April 2002 (acceptance rate 31%).

Girish Bhat, Rance Cleaveland, and **Alex Groce**. Efficient Model Checking Via Büchi Tableau Automata. *International Conference on Computer Aided Verification*, pages 38–52, Paris, France, July 2001 (acceptance rate 29%).

#### Invited Papers

**Alex Groce**, Alan Fern, Martin Erwig, Jervis Pinto, Tim Bauer, and Amin Alipour. Learning-Based Test Programming for Programmers. *International Symposium On Leveraging Applications of Formal Methods, Verification and Validation*, pages 572–586, Heraclion, Crete, October 2012.

Howard Barringer, **Alex Groce**, Klaus Havelund, and Margaret Smith. Formal Analysis of Log Files. *SMC-IT Workshop on Software Reliability for Space Missions*, Pasadena CA, July 2009.

Howard Barringer, **Alex Groce**, Klaus Havelund, and Margaret Smith. An Entry Point for Formal Methods: Specification and Analysis of Event Logs. *1st Workshop on Formal Methods in Aerospace*, Electronic Proceedings of Theoretical Computer Science (EPTCS), Eindhoven, Holland, November 2009.

Howard Barringer, Klaus Havelund, David Rydeheard, and **Alex Groce**. Rule Systems for Runtime Verification: A Short Tutorial. *International Workshop on Runtime Verification*, pages 1–24, Grenoble, France, June 2009.

Gerard Holzmann, Rajeev Joshi, and **Alex Groce**. Model Driven Code Checking. *Automated Software Engineering, Special Issue on Trends in Automated Software Engineering*, 15(3-4):283-197, December 2008.

Gerard Holzmann, Rajeev Joshi, and **Alex Groce**. Swarm Verification. *IEEE/ACM International Conference on Automated Software Engineering*, pages 1–6, L'Aquila, Italy, September 2008.

**Alex Groce**, Gerard Holzmann, Rajeev Joshi, and Ru-Gang Xu. Putting Flight Software Through the Paces with Testing, Model Checking, and Constraint-Solving. *International Workshop on Constraints in Formal Verification*, pages 1–15, Sydney, Australia, August 2008.

Gerard Holzmann, Rajeev Joshi, and **Alex Groce**. New Challenges in Model Checking. *25 Years of Model Checking*, pages 65–76, Seattle, Washington, August 2006.