

Curriculum Vitae¹

Radu Grosu

Address

Institute of Computer Engineering
Head of Dependable Systems Group 182/1
Faculty of Informatics
Vienna University of Technology
Treitlestraße 3
A-1040 Vienna
Phone: (43) 1 58801 18210
Fax: (43) 1 58801 18299
Web: <http://ti.tuwien.ac.at/rts/people/grosu>
Email: radu.grosu@tuwien.ac.at

Personal Information

Citizen of Germany, permanent resident of USA.
Married, one child.

Research Interests

Model-based design, analysis and control of complex dynamic systems.
Model checking, abstract interpretation, logic and automata theory, control theory.
Computational methods in systems biology.
Applied formal methods, software and systems engineering, UML.

Education

Dr. rer. nat. in Computer Science (November 1994)
Technical University of München, Germany.
Thesis: A Formal Foundation for Concurrent Object Oriented Programming.

Dipl.-Ing. in Computer Science (July 1986)
Technical University of Cluj, Romania.
Diploma: Software Tools for the Construction of an Automated Theorem Prover.

Employment

- February 2012– Full Professor,
Faculty of Informatics, Vienna University of Technology, Austria.
- February 2012– Research Professor,
Department of Computer Science, Stony Brook University, USA.
- September 2007–February 2012: Associate Professor with Tenure,
Department of Computer Science, Stony Brook University, USA.

¹ Updated August 2012.

- August 2000–August 2007: Tenure-track Assistant Professor, Department of Computer Science, Stony Brook University, USA.
- October 1998–July 2000: Research Associate, Department of Computer and Information Science, University of Pennsylvania, USA.
- June 1995–September 1998: Scientific Assistant, Department of Computer Science, Technical University of München, Germany.
- July 1990–May 1995: Scientific Researcher, Department of Computer Science, Technical University of München, Germany.
- October 1986–June 1990: System Engineer, Electronic Computing Center of Cluj, Romania.

Visiting Positions

- October 1998–July 2000: Research Associate, Department of Computer and Information Science, University of Pennsylvania, USA.

Honors

- Elected member of the International Federation for Information Processing WG 2.2, 2005.
- State University of New York Research Foundation Promising Inventor Award, USA, 2004.
- National Science Foundation Faculty Early Career Development Award, USA, 2002.
- Graduation with Distinction, Technical University of Cluj, Romania, 1986.

Current and Past Research Grants

- NSF award CCF-0926190, *Collaborative Research: Next-Generation Model Checking and Abstract Interpretation with a Focus on Embedded Control and Systems Biology*. PI: S. Smolka. CoPIs: R. Grosu, J. Glimm (USB), F. Fenton and R. Gilmour (Cornell). Total amount: \$1,858,340. Time span: from 9-1-09 to 6-30-14. Percentage: 35% of funds, totaling \$650,419, allocated to R. Grosu.
- AFOSR award FA0550-09-1-0481, *Collaborative Research: Survivable Software*. PI: S. Smolka. CoPIs: R. Grosu, S. Stoller, E. Zadok (USB) and K. Havelund (JPL). Total amount: \$810,694. Time span: from 4-1-09 to 3-31-12. Percentage: 20% of funds, totaling \$162,139, allocated to R. Grosu.
- CEWIT seed Proposal, *Model-Based Learning, Analysis and Control of Excitable Cells*. PI: E. Entcheva. CoPIs: R. Grosu, I.V. Ramakrishnan and S.A. Smolka. Time span: from 7-15-07 to 7-14-08. Total amount: funding for one PhD student.
- AFOSR STTR award AF-2004-023, *A Framework for Modeling and Analyzing Complex Distributed Systems, Phase II*. PI: N. Lynch (MIT). CoPIs: R. Grosu, A. Shvartsman (UConn) and S. Smolka. Total amount: \$750,000. Time span: from 9-1-05 to 8-31-07. Percentage: 16.6% of funds, totaling \$125,000, allocated to R. Grosu.
- NSF award CSR-AES05-09230, *Runtime Monitoring and Model Checking for High-Confidence System Software*. PI: E. Zadok. CoPIs: R. Grosu, A. Liu, S.A. Smolka and S. Stoller. Total amount: \$840,000. Time span: from 7-1-05 to 6-30-09. Percentage: 25% of funds, totaling \$210,000, allocated to R. Grosu.

- NSF award CCF05-23863, *Efficient Modeling and Analysis of Excitable Cell Networks using Hybrid Automata*. PI: E. Entcheva. CoPIs: R. Grosu and S.A. Smolka. Total amount: \$300,000. Time span: from 8-1-05 to 7-31-08. Percentage: 58.33% of funds, totaling \$175,000, allocated to R. Grosu.
- NSF CAREER award CCR01-33583, *Model-Based Design and Verification of Embedded Systems*. PI: R. Grosu. Total amount: \$300,000. Time span: from 6-1-02 to 5-31-07.
- REUTERS award SPIR-27656, *Translator of BizletL to BPEL4WS and Model Checker for BizletL*. PI: A. Bernstein. CoPIs: R. Grosu and P. Lewis. Total amount: \$20,000. Time span: from 6-1-02 to 5-31-03. Percentage: 33% of funds, totaling \$6,670, allocated to R. Grosu.
- REUTERS award SPIR-27658, *Correctness Checker and Automatic Generator of BizletL Workflows*. PI: A. Bernstein. CoPIs: R. Grosu and P. Lewis. Total amount: \$20,000. Time span: from 6-1-02 to 5-31-03. Percentage: 33% of funds, totaling \$6,670, allocated to R. Grosu.
- BMR award Br 887/12-1, *InTime - Methodological Founded Development of Real-Time Systems*. PIs: M. Broy and R. Grosu. Total Amount: Euro 226,023. Time span: from 2-1-00 to 1-1-03. Percentage: 50% of funds, totaling Euro 113,011, allocated to R. Grosu.
- NATO award HTECH.CRG97-2948, *Dynamic Dataflow Networks*. PI: M. Broy. CoPIs: R. Grosu and G. Stefanescu. Total amount: DM 225,000. Time span: from 7-1-98 to 6-30-00. Percentage: 33% of funds, totaling Euro 83,330, allocated to R. Grosu.
- DFG award ITS-9001-C2, *SPECTRUM - Deduction oriented Specification and Design of Software*. PIs: M. Broy and M. Wirsing. CoPi: R. Grosu. Time span: from 1-1-90 to 12-31-93. Total amount: DM 1,782,400. Percentage: 25% of funds, totaling DM 445,600, allocated to R. Grosu.

Pending Research Grants

- NSF ECCS-1028108 Proposal, *Collaborative Research: Understanding and Engineering Patterns in Populations of Bacteria*. PI: R. Grosu. Time span: from 9-1-10 to 8-30-14. Total amount: \$285,616.

Teaching

Undergraduate courses

Stony Brook University

- CSE 304: Compiler Design, Fall 2005–2001.
- CSE 306: Principles of Database Systems, Fall 2000.
- CSE 307: Principles of Programming Languages, Spring 2002.
- CSE 315: Database Transaction Processing Systems, Spring 2007, 2005.
- CSE 350: Theory of Computation: Honors, Spring 2008.

Technical University of München

- Practical Project Course in Programming, Spring 1998, (with M. Broy/B. Brügge).
- Introduction to Computer Science II, Spring 1997, (with M. Broy).
- Introduction to Computer Science IV, Spring 1995, (with M. Broy).
- Communication for Computer Scientists, Fall 1997, (with Lang/Witmann).

Graduate courses

Stony Brook University

- CSE 504: Advanced Compiler Design, Spring 2007, 2003.
- CSE 510: Hybrid Systems, Spring 2009, 2006.
- CSE 515: Advanced Database Transaction Processing Systems, Fall 2008, Fall 2006–2005.
- CSE 523/524: Intro. to Software Engineering and Project Plan, Fall/Spring 2006–2000.
- CSE 548: Analysis of Algorithms, Fall 2009.
- CSE 549: Introduction to Computational Biology, Fall 2008.
- CSE 625: Computer Aided Verification of Reactive Systems, Spring 2003, 2001.
- CSE 637: Program Semantics and Verification, Fall 2004.

Technical University of München

- Principles of Program and System Development, Fall 1997–1995, (with M. Broy/T. Nipkow).
- Distributed Systems, Spring 1997, (with M. Broy).

Graduate seminars

Stony Brook University

- CSE 657: Design and Analysis Research Seminar, Fall 2002, 2001.
- CSE 643: Concurrency Seminar, Fall 2006 (Guided MC), Spring 2002 (Hybrid Systems).

Technical University of München

- Object-Oriented Software Development, Spring 1994, (with M. Broy).

Research Group

PhD students (local and international)

- Ariful Islam (Advisor: R. Grosu. Co-advisors: S. Smolka. Since Spring 2011, PhD projected for 2017).
- Zhichao Li (Advisor: E. Zadok. Co-advisors: R. Grosu, S. Smolka and S. Stoller. Since Spring 2010, PhD projected for 2016).
- Abhishek Murthy (Advisor: R. Grosu. Co-advisors: S. Smolka. Since Spring 2010, PhD projected for 2016).
- Justin Syester (Advisor: E. Zadok. Co-advisors: R. Grosu, S. Smolka and S. Stoller. Since Spring 2009, PhD projected for 2015).
- Xiaowan Huang (Advisor: R. Grosu. Co-advisor: S. Smolka. Since Fall 2003, PhD Projected for Spring 2011), *Guided Monte Carlo Software Model Checking*, Stony Brook University.
- Sumit Jain (Advisor: R. Grosu. Co-advisor: P. Thadikaran. Since Fall 2005, PhD projected for Spring 2011. Joined Intel Inc.), *Open Source Software Model Checking*, Stony Brook University.
- Oliviero Riganelli (Advisor: F. Corradini. Co-advisors: R. Grosu and S. Smolka. PhD Defense Spring 2010. Joined University of Camerino as a Research Associate), *Designing Optimal Controllers for MANETs*, University of Camerino.
- Ezio Bartocci (Advisor: F. Corradini. Co-advisors: R. Grosu and S. Smolka. PhD Defense Spring 2009. Joined Stony Brook University as a Research Associate), *A Formal Framework for Modeling, Simulating and Analyzing Networks of Excitable Cells*, University of Camerino.

- Ye Pei (Advisor: R. Grosu. Co-advisors: E. Entcheva (BME) and S. Smolka. PhD Defense Spring 2008. Joined Electro-Optical Sciences, Inc.), *Modeling Excitable Cells Using Hybrid Automata*, Stony Brook University.
- Ziyang Duan (Advisor: A. Bernstein. Co-advisors: R. Grosu and P. Lewis. PhD Defense February 2007. Joined Reuters Inc.), *Automatic Verification and Synthesis of Web Service-based Workflows*, Stony Brook University.
- Shiyong Lu (Advisor: A. Bernstein. Co-advisors: R. Grosu and P. Lewis. PhD Defense Summer 2002, joined CS Faculty at Wayne State University), *Semantic Correctness of Transactions and Workflows*, Stony Brook University.

MS students (local and international)

- 2005–Onwards: Michell Baeten from the Technical University of Eindhoven; Robert S, Densel Santhmayor, Sugabrahmam Giridharan.
- 2004–2005: Robert Schmohl from the department of Computer Science of the TU Muenchen, Germany; Ganesh Prabhu, Seyasachi Pradhan, Densel Santhmayor, Mike True, Sugabrahmam Giridharan.
- 2003–2004: Wai Chong, Puloma Mukherjee, Krishnakumar N. Nair.
- 2002–2003: Khushru K. Bamji, Harshad Kamat, Delia Paval (Joined Reuters Inc.), Jaspreet Singh, Vaishali R. Wani, Qinghua Zhang, Jing Zhang.
- 2001–2002: Divyangi Anchan, Jyoti Waghlikar, Haibo Hu.
- 2000–2001: Xie Wen, Yingrou Chen, Zhiping Qiu.
- 1997–1998: Christian Stieber.
- 1996–1997: Tobias Mayr.
- 1995–1996: Stephan Breutel, Andrea Krause.

Departmental Activities

- Head of Dependable Systems Group, Vienna University of Technology, since February 2012.
- Information Systems Program Director, since May 2005.
- Information Systems Program Committee, since Fall 2001.
- Undergraduate Recruiting Committee, since Fall 2003.
- Graduate Admission Committee, Spring 2001 to Spring 2003.
- Faculty Recruiting Committee, Fall 2001 to Spring 2002.
- Library Committee, since Fall 2004.
- PhD Qualifying Examination, Fall 2000 to Spring 2004.
- PhD Thesis Committee: Rahul Agarwal, Sengupta Bikram, Sean Callanan, Ziyang Duan, Xiaowan Huang, Sumit Jain, Sankalp S. Kallakuri, Shiyong Lu, Robert Pokorny, Beata Sarna-Starosta, Anu Singh, Leena Unnikrishnan, Liqiang Wang, Ping Yang, Pei Ye.
- Presented the Concurrency Group at Graduate Orientation Meeting, Fall 2001 and Fall 2002.

Professional Activities

Program co-chair and co-organizer

- *HSCC'11, the 14th Int. Conf. on Hybrid Systems: Computation and Control*, Chicago, USA, April, 2011.
- *HSCB'09, 1st Int. Workshop on Hybrid Systems Approaches to Computational Biology Workshop*, St. Francisco, USA, April, 2009.
- *ICCP'06, the IEEE 2nd Int. Conf. on Intelligent Computer Communication and Processing*, Cluj-Napoca, Romania, September, 2006.
- *Dagstuhl Seminar 06411: Specification, Verification and Testing of Open Systems*, Dagstuhl, Germany, October 2006.
- *VMCAI'03, the 4th Int. Conf. on Verification, Model Checking and Abstract Interpretation*, New York, January 2003.
- *CoFI'96, Common Framework Initiative Meeting*, München, Germany, 1996.

Program committees

1. *First International SPIN Symposium on Model Checking of Software*, Stony Brook, NY, USA, July 2013
2. *HSCC'13, the 16th Int. Conf. on Hybrid Systems: Computation and Control*, Philadelphia, USA, April 8-11, 2013.
3. *FSEN'13, the IPM Int. Symp. on Fundamentals of Software Engineering*, April, 2013.
4. *Die Deutsche Multikonferenz Software Engineering*, Aachen, Germany, February 2013.
5. *BioTechno'13, the Fifth International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies*, Lisbon, Portugal, March, 2013.
6. *HSCC'12, the 15h Int. Conf. on Hybrid Systems: Computation and Control*, Beijing, in April 17-19, 2012.
7. *SEW-35, the 35th Annual IEEE Software Engineering Workshop*, Heraclion, Crete, Greece, June, 2012.
8. *FORMATS'11, the 9th Int. Conf. on Formal Modeling and Analysis of Timed Systems*, Aalborg, Denmark, September, 2011.
9. *RV'11, the 2nd Int. Conf. on Runtime Verification*, Berkeley, USA, September, 2011.
10. *SEW-34, the 34th Annual IEEE Software Engineering Workshop*, Limerick, Ireland, June, 2011.
11. *HCMDSS/MDPnP'11, the 3rd Joint Workshop On High Confidence Medical Devices, Software, and Systems & Medical Device Plug-and-Play Interoperability*, Chicago, USA, April, 2011.
12. *HSCC'11, the 14th Int. Conf. on Hybrid Systems: Computation and Control*, Chicago, USA, April, 2011.
13. *NFM'11, the 3rd NASA Formal Methods Symposium*, Pasadena, California, April, 2011.
14. *FSEN'11, the IPM Int. Symp. on Fundamentals of Software Engineering*, April, 2011.
15. *RV'10, 1st Int. Conf. on Runtime Verification*, Malta, November, 2010.
16. *FBTC'10, 3rd Int. Workshop From Biology to Concurrency and Back*, Paphos, Cyprus, March, 2010.

17. *FSEN'10, the IPM Int. Symp. on Fundamentals of Software Engineering*, April, 2010.
18. *HSCC'09, 12th Int. Conf. on Hybrid Systems: Computation and Control*, St. Francisco, USA, April, 2009.
19. *RV'09, 9th Int. Workshop on Runtime Verification*, Grenoble, France, June, 2009.
20. *FSEN'09, IPM Int. Symp. on Fundamentals of Software Engineering*, April, 2009.
21. *Int. Workshop on Network Tools and Applications in Biology*, 2008, Varenna, Italy, May, 2008.
22. *From Biology to Concurrency and Back Workshop*, Reykjavik, Iceland, July, 2008.
23. *AMAST'08, 12th Int. Conf. on Algebraic Methodology and Software Technology*, Urbana, Illinois, USA, July, 2008.
24. *FM'08, 15th Int. Symp. on Formal Methods*, Turku, Finland, May, 2008.
25. *HSCC'08, 11th Int. Conf. on Hybrid Systems: Computation and Control*, St. Luis, USA, April, 2008.
26. *FSEN'08, IPM Int. Symp. on Fundamentals of Software Engineering*, April, 2008.
27. *HSCC'07, 10th Int. Conf. on Hybrid Systems: Computation and Control*, Pisa, Italy, April, 2007.
28. *ICCP'07, IEEE 3rd Int. Conf. on Intelligent Computer Communication and Processing*, Cluj-Napoca, Romania, September, 2006.
29. *FBTC'07, From Biology to Concurrency and Back Int. Workshop*, Libon, Portugal, September, 2007.
30. *FSEN'07, IPM Int. Symp. on Fundamentals of Software Engineering*, April, 2007.
31. *ICCP'06, IEEE 2nd Int. Conf. on Intelligent Computer Communication and Processing*, Cluj-Napoca, Romania, September, 2006.
32. *SAC'06, 21st ACM Symp. on Applied Computing*, Dijon, France, April 2006.
33. *ACSD'06, 6th Int. Conf. on Application of Concurrency to System Design*, Turku, Finland, June 2006.
34. *ACSD'05, the 5th Int. Conf. on Application of Concurrency to System Design*, Saint Malo, France, June 2005.
35. *VMCAI'04, the 5th Int. Conf. on Verification, Model Checking and Abstract Interpretation*, Venice, Italy, January 2004.
36. *ACSD'04, the 4th Int. Conf. on Application of Concurrency to System Design*, Hamilton, Canada, June 2004.
37. *CSDUML'04, Workshop on Critical Systems Development with UML*, Lisbon, Portugal, October 2004.
38. *CSDUML'03, Workshop on Critical Systems Development with UML*, San Francisco, USA, October 2003.
39. *VMCAI'03, the 4th Int. Conf. on Verification, Model Checking and Abstract Interpretation*, New York, USA, January 2003.
40. *CSDUML'02, Workshop on Critical Systems Development with UML*, Dresden, Germany, September 2002.
41. *ISORC'00, the 3rd IEEE Int. Symp. on Object-oriented, Real-time distributed Computing*, Newport Beach, California, USA, March 2000.

42. *AMAST'00, the 8th Int. Conf. on Algebraic Methodology And Software Technology*, Iowa City, Iowa, USA, May 2000.
43. *UML'99, the 2nd Int. Conf. on the Unified Modeling Language*, University Park Holiday Inn Fort Collins, Colorado, USA, October 1999.
44. *WDS'99, Workshop on formal methods applied to Distributed Systems*, Iasi, Romania, September, 1999.

Proposal reviewer

1. The National Science Foundation (NSF), 2012, 2011, 2009, 2008, 2006, 2005, 2003, 2001.
2. The Air Force Office of Scientific Research (AFOSR), 2009.
3. The Research Council of Norway (RCN), 2003, 2002.
4. The National Research Foundation of South Africa (NRF), 2007.
5. The German Research Community (DFG), 2007.
6. The Australian Research Council (ARC), 2002.

External reviewer on PhD thesis committee

Yerang Hur, Department of Computer Science, University of Pennsylvania, 2003. Yue Yang, School of Computing, University of Utah, 2002. Bow-Yaw Wang, Department of Computer Science, University of Pennsylvania, 2001.

Journal referee

ACM Transactions on Programming Languages and Systems ACM Transactions on Design Automation of Electronic Systems; ACM Transactions on Software Engineering and Methodology; Acta Informatica; Formal Aspects of Computing; Fundamenta Informaticae IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems; IEEE Transactions on Parallel and Distributed Systems; IEEE Transactions on Software Engineering; Information and Computation, An International Journal; Information and Software Technology; International Journal on Software Tools for Technology Transfer; Journal of Symbolic Computation; The Journal of Real-Time Systems; Theoretical Computer Science.

Conference referee

1st International Conference on Runtime Verification 2010; 9th Workshop on Runtime Verification 2009; Workshop on Network Tools and Applications in Biology 2008; From Biology to Concurrency and Back Workshop 2010; From Biology to Concurrency and Back Workshop 2008; 12th International Conference on Algebraic Methodology and Software Technology 2008; 15th International Symposium on Formal Methods 2008; 12th International Conference on Hybrid Systems: Computation and Control 2009; 11th International Conference on Hybrid Systems: Computation and Control 2008; 10th International Conference on Hybrid Systems: Computation and Control 2007; IEEE 2nd International Conf. on Intelligent Computer Communication and Processing 2006; 21st Annual ACM Symposium on Applied Computing, Software Verification Track 2006; 6th Int. Conf. on Verification, Model Checking and Abstract Interpretation 2006; 28th International Conference on Software Engineering 2006; The International Conference on

Computer Aided Verification 2006; 21st ACM Symposium on Applied Computing 2006; Sixth International Conference on Application of Concurrency to System Design 2006; Fifth International Conference on Application of Concurrency to System Design 2005; Fourth International Conference on Application of Concurrency to System Design 2004; Fifth International Conference on Verification, Model Checking and Abstract Interpretation 2004; Fourth International Conference on Verification, Model Checking and Abstract Interpretation 2003; Workshop on Critical Systems Development with UML 2004; Workshop on Critical Systems Development with UML 2003; 23rd IEEE International Real-Time Systems Symposium 2002; IEEE Conference on Decision and Control 2002; 13th International Conference on Concurrency Theory 2002; Annual Conference of the European Association for Computer Science Logic 2002; Workshop on Critical Systems Development with UML 2002; Third International Conference on Verification, Model Checking and Abstract Interpretation 2001; ACM Workshop on Languages, Compilers, and Tools for Embedded Systems 2001; Tools and Algorithms for the Construction and Analysis of Systems 2001; 27th International Colloquium on Automata, Languages and Programming 2000; IFIP TC6/WG6.1 International Conference FORTE/ PSTV 2000; 12th International Conference on Computer Aided Verification 2000; 3rd International Workshop on Hybrid Systems and Control 2000; 3rd IEEE International Symposium on Object-oriented Real-time distributed Computing 2000; 8th International Conference on Algebraic Methodology And Software Technology 2000; 2nd International Conference on the Unified Modeling Language 1999; Workshop on formal methods applied to Distributed Systems, 1999; Tools and Algorithms for the Construction and Analysis of Systems, 1999; IEEE Symposium on Logic in Computer Science, 1999; ASIAN Computing Science Conference, 1997; Algebraic Methodology and Software Technology 1997; Fourth international Workshop on Real-Time Systems, 1997; Second International Workshop on Software Engineering for Parallel and Distributed Systems 1997; Colloquium on Trees in Algebra and Programming 1996; 4th International Workshop on Hardware/Software Co-design 1996; Formal Methods in Software Practice, 1996; Andrei Ershov Second International Memorial Conference: Perspectives of System Informatica, 1996; 1st International Workshop on Software Engineering for Parallel and Distributed Systems, 1996; Foundation of Software Technology and Theoretical Computer Science, 1995, 1994; 12th Annual Symposium on Theoretical Aspects of Computer Science, 1995; Mathematical Foundation of Computer Science , 1993, 1995; Seventh International Workshop on Software Specification and Design, 1993.

Professional societies

International Federation for Information Processing (IFIP) WG 2.2, ACM, IEEE Computer Society, Deutscher Hochschulverband, Gesellschaft für Informatik.

Lectures and Invited Talks

1. The Human Heart, An Ultimate Cyber-Physical System. *Invited Talk at the CAV-affiliated Workshop on Applications of Formal Methods in Systems Biology*, Berkeley, USA, July 2012.
2. Time-Frequency Logic For Signal Processing. *Invited Talk at the CAV-affiliated Workshop on Logics for System Analysis*, Berkeley, USA, July 2012.
3. Cyber-Physical Systems from EU-science perspective. *Acatech Closing Event: Integrated Research Agenda Cyber-Physical-Systems*, Berlin, Germany, April, 2012.

4. Hybrid Systems Crash Course. *Winter School on Verification*, 6-10 February 2012, Vienna, Austria.
5. Predicting Emergent Behavior in Cardiac Tissue: A Grand Challenge. *Invited Talk at the CMACS Seminar*, CMU, Pittsburgh, July, 2011, and the *Toward Systems Biology Workshop*, Grenoble, June, 2011.
6. Automatic Parameter-Range Estimation for Cardiac Cells. *Invited Talk*, Vienna University of Technology, June, 2011.
7. Modeling, Analysis and Control of Embedded Systems. *Invited Talk*, Westfälische Wilhelms-Universität Münster, January, 2011.
8. Finite Automata As Time-Invariant Linear Systems: Observability, Reachability and More. *Dagstuhl Seminar on Verification over Discrete-Continuous Boundaries*, Dagstuhl, Germany, July, 2010.
9. Learning and Detecting Emergent Behavior in Networks of Cardiac Myocytes. *Invited Talk*, University of Konstanz, Germany, July, 2009.
10. Modeling Excitable Cells with Hybrid Automata. *Center for Information and Systems Engineering Seminar*, Boston University, March, 2008.
11. Learning and Detecting Emergent Behavior in Networks of Cardiac Myocytes. *Invited Talk*, University of Freiburg, Germany, January, 2008.
12. Deep Random Search for Efficient Model Checking of Timed Automata. *Monterey Workshop on Composition of Embedded Systems*, Paris, France, October, 2006.
13. Static and Runtime Verification: A Monte Carlo Approach (short). *Dagstuhl Seminar on Specification, Verification and Testing of Open Systems*, Dagstuhl, Germany, October, 2006.
14. Static and Runtime Verification: A Monte Carlo Approach (long). *2nd IEEE International Conference on Intelligent Computer Communication and Processing*, Cluj, Romania, September, 2006.
15. Hybrid Automata as a Unifying Framework for Modeling Excitable Cells. *Computational Biology Workshop*, Stony Brook, NY, June, 2006.
16. Compiler-Assisted Software Verification Using Plug-Ins. *NSF Next Generation Software Workshop at IPDPS*, Rhodes Island, Greece, April, 2006.
17. Efficient Modeling of Excitable Cells using Hybrid Automata, *International Federation for Information Processing (IFIP) WG 2.2 Meeting*, Skagen, Denmark, September, 2005.
18. Monte Carlo Model Checking, *International Federation for Information Processing (IFIP) WG 2.2 Meeting*, Bertinoro, Italy, September, 2004.
19. Quantitative Model Checking, *International Workshop Beyond Safety*, Schloss Ringberg, Germany, April, 2004.
20. Shared Variables Interaction Diagrams, *Dagstuhl Seminar on Scenarios: Models, Transformations and Tools*, Schloß Dagstuhl, Germany, September, 2003.
21. Model-Based Design and Verification of Embedded Systems, *International Federation for Information Processing (IFIP) WG 2.2 Meeting*, Amsterdam, The Netherlands, May, 2003.
22. And/Or Hierarchies and Round Abstraction. *MFCS 2000, 25th International Symposium on Mathematical Foundations of Computer Science*, Bratislava, Slovakia, September, 2000.
23. Hierarchical Design and Analysis of Reactive Systems, *Electrical Engineering and Computer Sciences, University of California at Berkeley*, May, 2000.

24. Putting the ROOM-Method on a Solid, Formal Basis. *ObjecTime Workshop on Research in Real-Time Object-Oriented Modeling*, Kanata, Ontario, Canada, January, 1998.
25. The Specification of a Dynamic, Real-Time Telephone Central in ROOM. *ObjecTime Workshop on Research in Real-Time Object-Oriented Modeling*, Kanata, Canada, January, 1998.
26. Real-Time and Asynchronous Message Passing. *Dagstuhl Seminar on Logic for System Engineering*, Schloß Dagstuhl, Germany, March, 1997.
27. Relational Specification of a Banking System. *Workshop on Concurrency in Information-Systems*, Braunschweig, Germany, January, 1996.
28. A Denotational Model for Dynamic Dataflow Networks. *Compass Workshop*, Sintra, Portugal, February, 1995.
29. A New Type-Theoretic Approach to Objects. *Dagstuhl Seminar on Fundamentals of Object-Oriented Languages, Systems and Methods*, Schloß Dagstuhl, Germany, August, 1994.
30. Type Classes in Spectrum. *Compass Day at Tapsoft*, Orsay, France, April, 1993.
31. A Formal Foundation of the OO-Methodology Based on Stream Processing Functions. *Compass/Compugraph meeting on Specification of Concurrent and Object-Oriented Systems*, L'Aquila, Italy, June, 1993.
32. The Logical Framework of Spectrum. *9th WADT - 4th Compass Workshop*, Caldes de Malavella, Spain, October, 1992.

Software

1. TEMPO: *A Framework for Modeling and Analyzing Complex Distributed Systems*. A preliminary version is available at <http://www.veromodo.com>. Instrumental in the overall design. Leading the model checking effort. N. Lynch, L. Michel, S.A. Smolka and A. Shvartsman are also involved in the design.
2. GMC: *Stony Brook University GCC Open-Source Software Model-Checking Tool Kit*. A preliminary version is available at <http://www.cs.sunysb.edu/~gmc>. Leading the design and implementation effort. S.A. Smolka and E. Zadok are also involved in the design.
3. EHA: *Efficient Modeling and Analysis of Excitable Cell Networks using Hybrid Automata*. A preliminary version is available at <http://www.cs.sunysb.edu/~eha>. Leading the design and implementation effort. E. Entcheva and S.A. Smolka are also involved in the design.
4. CHARON: *Modular specification of hybrid systems*. A preliminary version is available at www.cis.upenn.edu/mobies/charon. Lead the design and implementation effort between 1998–2000. R. Alur, I. Lee and V. Kumar were also involved in the design.
5. JMOCHA: *A model checking environment for heterogeneous systems*. A preliminary version is available at www.cs.sunysb.edu/~mocha. Leading the design and implementation effort since 1998. R. Alur, T. Henzinger and others are also involved.
6. SPECTRUM: *An algebraic specification language for reactive systems*. Project overview is available at www4.in.tum.de/proj/spectrum. Designed and implemented the “programming in the large” part. M. Broy, M. Wirsing and others were also involved in the design.

Patents

1. M. Broy, R. Grosu and I. Krüger. Automatically Generating a Program. *US Patent No.: 06405361*, <http://patft.uspto.gov/netahtml/search-bool.html>, USA, June, 2002.

2. M. Broy, R. Grosu and I. Krüger. Algorithms for Automatic Translation of Message Sequence Charts to State Transition Diagrams, *German Patent No. 198 37 871*. Germany, July, 2000.

Journal Papers

1. A. Murthy, E. Bartocci, F. Fenton, J. Glimm, R.A. Gray, E.M. Cherry, S.A. Smolka, and R. Grosu. Curvature Analysis of Cardiac Excitation Wavefronts. To appear in *IEEE Transactions on Computational Biology and Bioinformatics*, 2012, IEEE.
2. J. Seyster, K. Dixit, X. Huang, R. Grosu, K. Havelund, S.A. Smolka, S.D. Stoller and E. Zadok. InterAspect: Aspect-Oriented Instrumentation with GCC. To appear in *Formal Methods in System Design 2012*.
3. X. Huang, J. Seyster, S. Callanan, K. Dixit, R. Grosu, S.A. Smolka, S.D. Stoller and E. Zadok. Software Monitoring with Controllable Overhead. In the *International Journal on Software Tools for Technology Transfer (STTT)*, 14(3), pp. 327–347, June, 2012, Springer.
4. E. Bartocci, R. Singh, F.B. von Stein, A. Amedome, A.J. Caceres, J. Castillo, E. Closser, G. Deards, A. Goltsev, R.S. Ines, C. Isbilir, J.K. Marc, D. Moore, D. Pardi, S. Sadhu, S. Sanchez, P. Sharma, A. Singh, J. Rogers, A. Wolinetz, T.G. Applewhite, K. Zhao, A.B. Filipinski, R.F. Gilmour, R. Grosu, J. Glimm, S.A. Smolka, E. Cherry, E.M. Clarke, N. Griffith and F. Fenton. Teaching cardiac electrophysiology modeling to undergraduate students: laboratory exercises and GPU programming for the study of arrhythmias and spiral wave dynamics. In *Adv Physiol Educ* 35:1–11, 2011.
5. E. Bartocci, F. Corradini, M.R. Di Berardini, E. Entcheva, R. Grosu and S.A. Smolka. Modeling and Simulation of Cardiac Tissue using Hybrid I/O Automata. *Theoretical Computer Science (TCS)*, 410(33-34):3149–3165, August, 2009, Elsevier. ISI Impact factor: 0.735.
6. R. Grosu, S.A. Smolka, F. Corradini, E. Entcheva, A. Wasilewska and E. Bartocci. Learning and Detecting Emergent Behavior in Networks of Cardiac Myocytes. *Communications of the ACM (CACM)*, 52(3):97–105, March, 2009. ISI Impact factor: 1.593.
7. E. Bartocci, F. Corradini, E. Entcheva, R. Grosu and S.A. Smolka. CellExcite: An Efficient Simulation Environment for Excitable Cells. *BMC Bioinformatics*, 9(2):1–13, 2008. ISI Impact Factor: 3.49.
8. P. Ye, E. Entcheva, S.A. Smolka, M.R. True and R. Grosu. A Cycle-Linear Hybrid-Automata Model for Excitable Cells. *IET Systems Biology (SYB)*, 2(1):24–32, 2008. SCI Impact factor: 3.24 (top 1%).
9. R. Alur, R. Grosu, I. Lee and O. Sokolsky. Compositional Modeling and Refinement for Hierarchic Hybrid Systems. *The Journal of Logic and Algebraic Programming (JLAP)*, 68(1):105–128, 2006. Elsevier. Journal Citation Reports impact rating: 2.125 (top 2%). As of Oct. 31 2006, ranked **3rd** among **Hottest 25** Articles of JLAP by ScienceDirect.
10. R. Alur and R. Grosu. Modular Refinement of Hierarchic Reactive Machines. *ACM Transactions on Programming Languages Systems (TOPLAS)*, 26(2):339–360, 2004. ACM. CiteSeer impact rating: 1.92 (top 3.35%).
11. R. Grosu and T. Stauner. Modular and Visual Specification of Hybrid Systems - An Introduction to HyCharts *Formal Methods in System Design (FMSD)*, 21(1):5–38, 2002. Kluwer Academic Publishers. CiteSeer impact rating: 1.74 (top 5.48%).
12. R. Grosu and K. Stølen. Stream Based Specification of Mobile Systems. *Formal Aspects of Computing (FAC)*, 13(1):1–31, 2001. Springer. CiteSeer impact rating: 1.06 (top 21.04%).

13. R. Grosu, D. Lucanu and G. Stefanescu. Mixed Relations as Enriched Semiringal Categories. *Journal of Universal Computer Science (JUCS)*, 6(1):112–129, 2000. Springer. Journal citation reports impact rating: 0.45 (top 53%).
14. R. Breu and R. Grosu. Relating Events, Messages and Methods of Multiple Threaded Objects. *The Journal of Object Oriented Programming (JOOP)*, 12(8):8–14, 2000, SIGS. CiteSeer impact rating: 0.32 (top 63.22%).
15. R. Breu, R. Grosu, C. Hofmann, F. Huber, I. Krüger, B. Rumpe, M. Schmidt and W. Schwerin. Exemplary and Complete Object Interaction Descriptions. *Computer Standards and Interfaces*, 19(7):335–345, 1998. Elsevier. Journal citation reports impact rating: 0.36 (top 59%).

Refereed Conference Papers

1. E. Bartocci, R. Grosu, A. Karmarkar, S.A. Smolka, S.D. Stoller, E. Zadok, and J. Seyster. Adaptive Runtime Verification. *Proc. of RV'12, the 3rd International Conference on Runtime Verification*, Istanbul, Turkey, September, 2012, Springer LNCS. The acceptance rate was 25%.
2. A. Murthy, A. Islam, E. Bartocci, E. Cherry, F.H. Fenton, J. Glimm, S.A. Smolka, and R. Grosu. Approximate Bisimulations for Sodium-Channel Dynamics. *Proc. of CMSB'12, the 10th International Conference on Computational Methods in Systems Biology*, London, UK, October, 2012, Springer LNCS/LNBI. Each paper had at least 4 reviews. The acceptance rate was 25%.
3. A. Donze, O. Maler, E. Bartocci, D. Nickovic, R. Grosu, and S.A. Smolka. On Temporal Logic and Signal Processing. *In Proc. of ATVA'12, the 10th International Symposium on Automated Technology for Verification and Analysis*, Thiruvananthapuram, Kerala, October, 2012, Springer Verlag, LNCS. Each paper had at least 4 reviews. The acceptance rate was 25%.
4. S. Bogomolov, G. Frehse, R. Grosu, H. Ladan, A. Podelski, and M. Wehrle. A Box-Based Distance between Regions for Guiding the Reachability Analysis of SpaceEx. *In Proc. of CAV'12, the 24rd International Conference on Computer Aided Verification*, Berkeley, California, USA, July, 2012, Springer Verlag, LNCS. Each paper had at least 4 reviews. The acceptance rate was 25%.
5. S.D. Stoller, E. Bartocci, J. Seyster, R. Grosu, K. Havelund, S.A. Smolka, and E. Zadok. Runtime Verification with State Estimation. *Proc. of RV'11, the 2nd International Conference on Runtime Verification*, San Francisco, November, 2011, pp. 193-207, Springer, LNCS 6418. **Best paper award**. Each paper had at least 3 reviews. The acceptance rate was 35%.
6. A. Murthy, E. Bartocci, F. Fenton, J. Glimm, R. Gray, S.A. Smolka, and R. Grosu. Curvature Analysis of Cardiac Excitation Wavefronts. *Proc. of CMSB'11, the 9th International Conference on Computational Methods in Systems Biology*, Paris, France, September, 2011, pp. 405–420, ACM, ISBN 978-1-4503-0817-5.
7. E. Bartocci, E. Cherry, J. Glimm, R. Grosu, S.A. Smolka, and F. Fenton. Toward Real-time Simulation of Cardiac Dynamics. *Proc. of CMSB'11, the 9th International Conference on Computational Methods in Systems Biology*, Paris, France, September, 2011, pp. 151–160, ACM, ISBN 978-1-4503-0817-5.
8. R. Grosu, G. Batt, F. Fenton, J. Glimm, C. Le Guernic, S.A. Smolka and E. Bartocci. From Cardiac Cells to Genetic Regulatory Networks. *Proc. of CAV'11, the 23rd International*

Conference on Computer Aided Verification, Cliff Lodge, Snowbird, Utah, USA, July, 2011, pp. 396–411, Springer, LNCS 6806. Each paper had at least 4 reviews. The acceptance rate was 20%.

9. Z. Li, R. Grosu, P. Sehgal, S.A. Smolka, S.D. Stoller, and E. Zadok. On the Energy Consumption and Performance of Systems Software. *Proc. of SYSTOR'11, the 4th Annual International Systems and Storage Conference*, Haifa, Israel, June, 2011, pp. 85–96, ACM, ISBN 978-1-4503-0773-4. Each paper had at least 3 reviews.
10. E. Bartocci, R. Grosu, P. Katsaros, C.R. Ramakrishnan and S.A. Smolka. Model Repair for Probabilistic Systems. *Proc. of TACAS'11, the 7th International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, Saarbrücken, Germany, March, 2011, pp. 326–340, Springer, LNCS 6605. Each paper had at least 3 reviews.
11. J. Seyster, K. Dixit, X. Huang, R. Grosu, K. Havelund, S.A. Smolka, S.D. Stoller and E. Zadok. Aspect-Oriented Instrumentation with GCC. *Proc. of RV'10, the 1st International Conference on Runtime Verification*, Malta, November, 2010, pp. 405–420, Springer LNCS 6418. Each paper had at least 3 reviews.
12. R. Grosu. The Cayley-Hamilton Theorem for Noncommutative Semirings. *Proc. of CIAA'10, the 15th International Conference on Implementation and Application of Automata*, Winnipeg, Canada, August, 2010, pp. 194–208, Springer, LNCS 5469. Each paper had at least 3 reviews.
13. R. Grosu. Finite Automata as Time-Invariant Linear Systems: Observability, Reachability and More. *Proc. of HSCC'09, the 12th International Conference on Hybrid Systems: Computation and Control*, San Francisco, USA, April, 2009, pp. 194–208, Springer, LNCS 5469. Each paper had at least 4 reviews. The acceptance rate was 25%.
14. Z. Yang, B. Al-Rawi, K. Sakallah, X. Huang, S.A. Smolka and R. Grosu. Dynamic Path Reduction for Software Model Checking. *Proc. of iFM'09, the 7th International Conference on Integrated Formal Methods*, Duesseldorf, Germany, February 2009, pp. 322–336, Springer, LNCS 5423. Each paper had at least 4 reviews.
15. O. Riganelli, R. Grosu, S. Das, C.R. Ramakrishnan and S.A. Smolka. Power Optimization in Fault-Tolerant MANETs. *Proc. of Hase'08, the 11th IEEE High Assurance Systems Engineering Symposium*, Nanjing, China, December 2008, IEEE Computer Society. Each paper had at least 4 reviews.
16. P. Ye, R. Grosu, S.A. Smolka and E. Entcheva. Formal Analysis of Abnormal Excitation in Cardiac Tissue. *Proc. of CMSB'08, the 6th International Conference on Computational Methods in Systems Biology*, Rostock, Germany, October, 2008, Springer, pp. 141–155, LNBI 5307. Each paper had at least 3 reviews. The acceptance rate was 30%.
17. O. Riganelli, R. Grosu, S. Das, C.R. Ramakrishnan and S.A. Smolka. Power Optimization in Fault-Tolerant MANETs: Poster Paper. *Proc. of Mascots'08, the 16th International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems*, Baltimore, USA, September, 2008, IEEE Computer Society. CiteSeerX impact factor: 0.03.
18. P. Ye, E. Entcheva, S.A. Smolka and R. Grosu. Symbolic Analysis of the Neuron. *Proc. of ICBBE'08, the 2nd International Conference on Bioinformatics and Biomedical Engineering*, Shanghai, China, May, 2008, IEEE. Each paper had at least 3 reviews. No acceptance rate provided.
19. R. Grosu, E. Bartocci, F. Corradini, E. Entcheva, S.A. Smolka and A. Wasilewska. Learning and Detecting Emergent Behavior in Networks of Cardiac Myocytes. *Proc. of HSCC'08, the 11th International Conference on Hybrid Systems: Computation and Control*, St. Louis,

USA, April, 2008, pp. 229-243, Springer, LNCS 4981. Each paper had at least 4 reviews. The acceptance rate was 25%. CiteSeerX impact factor: 0.03.

20. R. Grosu, S. Mitra, P. Ye, E. Entcheva, IV Ramakrishnan and S.A. Smolka. Learning Cycle-Linear Hybrid Automata for Excitable Cells. *Proc. of HSCC'07, the 10th International Conference on Hybrid Systems: Computation and Control*, Pisa, Italy, April, 2007, pp. 245–258, Springer LNCS 4416. Each paper had at least 4 reviews. The acceptance rate was 25%. CiteSeer impact rating: 1.26 (top 13.43%).
21. P. Ye, E. Entcheva, S.A. Smolka, M.R. True and R. Grosu. A Cycle-Linear Approach to Modeling Action Potentials. *Proc. of EMBS'06, the 28th IEEE International Conference of the Engineering in Medicine and Biology Society*, New York City, USA, August, 2006, pp. 3931–3934, IEEE Press. Each paper had at least 3 reviews. No acceptance rate provided.
22. P. Ye, E. Entcheva, S.A. Smolka, M.R. True and R. Grosu. Hybrid Automata as a Unifying Framework for Modeling Cardiac Cells. *Proc. of EMBS'06, the 28th IEEE International Conference of the Engineering in Medicine and Biology Society*, New York City, USA, August, 2006, pp. 4151–4154, IEEE Press. Each paper had at least 3 reviews. The acceptance rate was not provided.
23. M.R. True, E. Entcheva, S.A. Smolka, P. Ye and R. Grosu. Efficient Event-Driven Simulation of Excitable Hybrid Automata. *Proc. of EMBS'06, the 28th IEEE International Conference of the Engineering in Medicine and Biology Society*, New York City, USA, August, 2006, pp. 3150–3153, IEEE Press. Each paper had at least 3 reviews. No acceptance rate provided.
24. R. Grosu and S.A. Smolka. Safety-Liveness Semantics for UML 2.0 Sequence Diagrams. *Proc. of ACSD'05, the 5th International Conference on Application of Concurrency to System Design*, St Malo, France, June, 2005, pp. 6–14, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was 51%.
25. R. Grosu and S.A. Smolka. Monte Carlo Model Checking. *Proc. of TACAS'05, the 11th International Conference on Tools and Algorithms for the Construction and Analysis of Systems*, Edinburgh, U.K., April, 2005, pp. 271–286, Springer LNCS 3440. Each paper had at least 4 reviews. The acceptance rate was 23%. CiteSeer impact rating: 1.24 (top 14.33%).
26. R. Grosu and S.A. Smolka. Quantitative Model Checking. *Proc. of ISO LA'04, the 1st International Symposium on Leveraging Applications of Formal Methods*, Paphos, Cyprus, November, 2004, pp. 165–174. Each paper had at least 4 reviews.
27. R. Grosu, Y.A. Liu, S.A. Smolka, S.D. Stoller and J. Yan. Automated Software Engineering Using Concurrent Class Machines, *Proc. of ASE'01, the 16th IEEE International Conference on Automated Software Engineering*, San Diego, USA, November, 2001, pp. 297–307, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was 19.5%. CiteSeer impact rating: 0.97 (top 25.06%).
28. R. Alur and R. Grosu. Shared Variables Interaction Diagrams, *Proc. of ASE'01, the 16th IEEE International Conference on Automated Software Engineering*, San Diego, USA, November, 2001, pp. 281–288, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was 19.5%. CiteSeer impact rating: 0.97 (top 25.06%).
29. R. Alur, R. Grosu, M. Kang, B.Y. Wang, L.di Alfaro, T. Henzinger, R. Majumdar, C. Meyer and F. Mang. Mocha: A Model Checking Tool that Exploits Design Structure, *Proc. of ICSE'01, the 23rd International Conference on Software Engineering*, Toronto, May, 2001, pp. 835–836, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was 13%. CiteSeer impact rating: 2.05 (top 2.12%).

30. R. Alur, R. Grosu and B.-Y. Wang. Automated Refinement Checking for Asynchronous Processes, *Proc. of the FMCAD'00, the 3rd International Conference on Formal Methods in Computer-Aided Design*, Austin Texas, November, 2000, pp. 55–72, Springer LNCS 1954. Each paper had at least 4 reviews. The acceptance rate was 48%. CiteSeer impact rating: 1.25 (top 13.75%).
31. R. Alur, R. Grosu and M. McDougall. Efficient Reachability Analysis of Hierarchical Reactive Machines. *Proc. of CAV'00, the 12th International Conference on Computer-Aided Verification*, Chicago, USA, July, 2000, pp. 280–296, Springer LNCS 1855. Each paper had at least 4 reviews. The acceptance rate was 38%. CiteSeer impact rating: 1.88 (top 3.52%).
32. R. Alur and R. Grosu. Modular Refinement of Hierarchic Reactive Machines. *Proc. of POPL'00, the 27th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages*, Boston, Massachusetts, January, 2000, pp. 390–402, ACM Press. Each paper was reviewed by at least 4 program committee members. The acceptance rate was 20%. CiteSeer impact rating: 2.26 (top 1.06%).
33. R. Grosu, T. Stauner and I. Krueger. Hybrid Sequence Charts. *Proc. of ISORC'00, the 3rd IEEE International Symposium on Object-Oriented Real-Time Distributed Computing*, Newport Beach, California, March, 2000, pp. 104–111, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was not provided.
34. K. Bergner, R. Grosu, A. Rausch, A. Schmidt, P. Scholz and M. Broy. Focusing on Mobility. *In Proc. of HICCS'99, the 32nd Annual Hawaii International Conference on System Sciences*, Hawaii, January, 1999, pp. 8030–8039, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was not provided. CiteSeer impact rating: 0.33 (top 62.57%).
35. R. Grosu, T. Stauner and M. Broy. A Modular Visual Model for Hybrid Systems. *In Proc. of FTRTFT'98, the 5th International School and Symposium Formal Techniques in Real-Time and Fault-Tolerant Systems*, Lyngby, Denmark, September, 1998, pp. 75–91, Springer LNCS 1486. Each paper had at least 4 reviews. The acceptance rate was not provided. CiteSeer impact rating: 1.00 (top 23.83%).
36. R. Grosu, G. Stefanescu and M. Broy. Visual Formalisms Revisited. *In Proc. of ACSD'98, the 1st International Conference on Application of Concurrency to System Design*, Aizu-Wakamatsu, Japan, March, 1998, pp. 41–51, IEEE Press. Each paper had at least 4 reviews. The acceptance rate was 45%.
37. R. Grosu, C. Klein and M. Broy. Reconciling real-time with asynchronous message passing. *In Proc. of FME'97, the Formal Methods Europe Symposium*, Graz, September, 1997, pp. 182–200, Springer LNCS 1313. Each paper had at least 4 reviews. The acceptance rate was 36%. CiteSeer impact rating: 1.12 (top 18.59%).
38. R. Breu and R. Grosu. Modeling the dynamic behavior of objects: On events, messages and methods. *In Proc. of Euro-Par'97, the 3rd International Euro-Par Conference*, Passau, August, 1997, pp. 572–588, Springer LNCS 1300. Each paper had at least 4 reviews. The acceptance rate was 31%. CiteSeer impact rating: 0.67 (top 40.21%).
39. R. Grosu and K. Stølen. A Model for Mobile Point-to-Point Data-flow Networks without Channel Sharing. *In Proc. of AMAST'96, the 5th International Conference on Algebraic Methodology and Software Technology*, München, July, 1996, pp. 504–519, Springer LNCS 1101. Each paper had at least 4 reviews. The acceptance rate was 37%. CiteSeer impact rating: 0.68 (top 38.98%).
40. R. Grosu and D. Nazareth. Towards a New Way of Parameterization. *In Proc. of the 3rd Maghrebian Conference on Software Engineering and Artificial Intelligence*, Rabat, Morocco, April, 1994, pp. 383–392. Each paper had at least 4 reviews.

Refereed Workshop Papers

1. Z. Li, R. Grosu, K. Muppalla, S.A. Smolka, S.D. Stoller, and E. Zadok. Model Discovery for Energy-Aware Computing Systems: An Experimental Evaluation. *In Proc. of ERSS'11, the 1st International Workshop on Energy Consumption and Reliability of Storage Systems*, Orlando, FL, July, 2011, pp. 1–6. Each paper had at least 3 reviews. The acceptance rate was not provided.
2. R. Grosu, X. Huang, S.A. Smolka, W. Tan and S. Tripakis. Deep Random Search for Efficient Model Checking of Timed Automata. *Selected Papers of MW'06, the 7th Monterey Workshop on Composition of Embedded Systems*, Paris, France, October, 2006, pp. 111–124, Springer, LNCS 4888, 2008.
3. E. Bartocci, F. Corradini, M.R. Di Berardini, E. Entcheva, R. Grosu and S.A. Smolka. Spatial Networks of Hybrid I/O Automata for Modeling Excitable Tissue. *Proc. of FBTC'07, the International Workshop From Biology to Concurrency and Back*, Lisbon, September, 2007. ENTCS vol. 194(3), pp. 51–67, 2007. Each paper had at least 3 reviews. The acceptance rate was not provided.
4. S. Callanan, R. Grosu, A. Rai, S.A. Smolka, M.R. True and E. Zadok. Runtime Verification for High-Confidence Systems: A Monte Carlo Approach. *Proc. of MBT'06, the 2nd International Workshop on Model Based Testing*, Vienna, Austria, March, 2006, ENTCS vol. 164(4), pp. 41–52. Each paper had at least 3 reviews. The acceptance rate was not provided.
5. R. Grosu, X. Huang, S. Jain and S.A. Smolka. Open Source Model Checking. *Proc. of SoftMC'05, the 3rd International Workshop on Software Model Checking*, Edinburgh, U.K., July, 2005, ENTCS vol. 144(3), pp. 27–44. Each paper had at least 3 reviews. Acceptance rate 53%.
6. P. Ye, E. Entcheva, R. Grosu and S.A. Smolka. Efficient Modeling of Excitable Cells using Hybrid Automata. *Proc. of CMSB'05, the 3rd International Workshop on Computational Methods in Systems Biology Workshop*, Edinburgh, Scotland, April, 2005, pp. 216–227. Each paper had at least 3 reviews.
7. R. Grosu, X. Huang and S.A. Smolka, P. Yang. Monte Carlo Analysis of Security Protocols: Needham-Schroeder Revisited. *Proc. of the DIMACS Workshop on Security Analysis of Protocols*, Rutgers University, June 2004, pp. 1–10. Each paper had at least 3 reviews.
8. R. Grosu, E. Zadok, S.A. Smolka, R. Cleaveland and Y.A. Liu. High-Confidence Operating Systems. *Proc. of EW'02, the 10th ACM SIGOPS European Workshop: Can we really depend on an OS?*, Saint-Emilion, France, September, 2002, pp. 205–208, ACM Press. Each paper had at least 3 reviews.
9. R. Alur, R. Grosu, I. Lee and O. Sokolsky. Compositional Refinement for Hierarchic Hybrid Systems. *Proc. of HSCC'01, the 4th International Workshop on Hybrid Systems: Computation and Control*, Roma, Italy, March, 2001, pp. 33–49, Springer LNCS 2034. Each paper had at least 4 reviews. The acceptance rate was 44%. CiteSeer impact rating: 1.26 (top 13.43%). As of Sep. 20 2010, it has **85 citations**.
10. R. Alur, R. Grosu, Y. Hur, I. Lee and V. Kumar. Modular Specification of Hybrid Systems in CHARON. *Proc. of HSCC'00, the 3rd International Workshop on Hybrid Systems: Computation and Control*, Pittsburgh, PA, March, 2000, Springer LNCS 1790, pp. 6–19. Each paper had at least 4 reviews. The acceptance rate was 45%. CiteSeer impact rating: 1.26 (top 13.43%). As of Sep. 20 2010, it has **184 citations**.
11. R. Grosu, I. Krueger and T. Stauner. Requirements Specification of an Automotive System with Hybrid Sequence Charts. *In Proc. of WORDS'99, the 5th International Workshop*

- on *Object-oriented Real-time Dependable Systems*, Monterey, California, November, 1999, pp. 149–154, IEEE Press. Each paper had at least 3 reviews.
12. R. Grosu, M. Broy, B. Selic and G. Stefanescu. Towards a Calculus for UML-RT Specifications. *In Proc. of the 7th OOPSLA Workshop on Behavioral Semantics of OO Business and System Specifications*, Vancouver, October, 1998, pp. 1–18, ACM Press. Each paper had at least 3 reviews.
 13. R. Grosu and T. Stauner. Visual Description of Hybrid Systems. *In Proc. of WRTP'98, the 23rd IFAC/IFIP Workshop On Real Time Programming*, Shantou, Guandong Province, P.R. China, pp. 1–6, Elsevier Science Ltd., June 1998. Each paper had at least 3 reviews.
 14. R. Breu, R. Grosu, C. Hofmann, F. Huber, I. Krüger, B. Rumpe, M. Schmidt and W. Schwerin. Exemplary and Complete Object Interaction Descriptions. *In Proc. of OOPSLA'97 Workshop on Object-oriented Behavioral Semantics*, Vancouver, Canada, October, 1997, pp. 1–11. Each paper had at least 3 reviews.
 15. R. Breu, R. Grosu, F. Huber, B. Rumpe and W. Schwerin. Towards a Precise Semantics for Object-Oriented Modeling Techniques (long). *In Proc. of ECOOP'97 Workshop on Precise Semantics for Object-Oriented Modeling Techniques*, Jyvaeskylae, Finland, May, 1997, pp. 53–61, TU Munich. Each paper had at least 3 reviews.
 16. R. Breu, R. Grosu, F. Huber, B. Rumpe and W. Schwerin. Towards a Precise Semantics for Object-Oriented Modeling Techniques (short). *In Object-Oriented Technology, ECOOP'97 Workshop Reader*, June, 1997, pp. 205–211, Springer LNCS 1357. Shorter version of the Workshop paper. As of Sep. 20 2010, it has **50 citations**.
 17. R. Grosu and K. Stølen. Specification of Mobile Systems. *In Proc. of NWPT'96, the 8th Nordic Workshop on Programming Theory*, Oslo, Norway, December, 1996, pp. 67–76, University of Oslo. Each paper had at least 3 reviews.
 18. R. Grosu and F. Regensburger. The Semantics of SPECTRUM. *In Proc. of HOA '93, the 1st International Workshop on Higher-Order Algebra, Logic, and Term Rewriting*, Amsterdam, The Netherlands, September, 1993, pp. 124–145, Springer LNCS 816. Each paper had at least 3 reviews. CiteSeer impact rating: 0.92 (top 27.10%).

Invited Papers and Book Chapters

1. R. Grosu, F. Fenton, S.A. Smolka and E. Bartocci. A Change of Perspective Yields Formal Analysis. *In Proc. of SEW'11, the IEEE 34th Software Engineering Workshop*, Limerick, Ireland, June, 2011, pp. 69–76, IEEE, ISBN 978-0-7695-4627-8.
2. E. Bartocci, F. Corradini, R. Grosu, E. Merelli, O. Riganelli and S.A. Smolka. StonyCam: a Formal Framework for Modeling, Analyzing and Regulating Cardiac Myocytes. *Essays Dedicated to Ugo Montanari on the Occasion of His 65th Birthday*, pp. 493–502, Springer, LNCS 5065, June, 2008.
3. S. Callanan, D.J. Dean, M. Gorbovitski, R. Grosu, J. Seyster, S.A. Smolka and E. Zadok. Software Monitoring with Bounded Overhead. *Proc. of NGS'08, the Next Generation Software Workshop at IPDPS*, Miami, Florida, USA, April, 2008, pp. 1-8
4. S. Callanan, R. Grosu, J. Seyster, S.A. Smolka and E. Zadok. Model Predictive Control for Memory Profiling. *Proc. of NGS'07, the Next Generation Software Workshop at IPDPS*, Long Beach, California, March, 2007, pp. 1–7, IEEE Press.
5. R. Grosu, X. Huang, S.A. Smolka, W. Tan and S. Tripakis. Deep Random Search for Efficient Model Checking of Timed Automata. *Proc. of MW'06, the 7th Monterey Workshop on Composition of Embedded Systems*, Paris, France, October, 2006, pp. 37–48.

6. S. Callanan, R. Grosu, X. Huang, S.A. Smolka and E. Zadok. Compiler-Assisted Software Verification Using Plug-Ins. *Proc. of NGS'06, the Next Generation Software Workshop at IPDPS*, Rhodes Island, Greece, April, 2006, pp. 8–15, IEEE Press.
7. R. Grosu and S.A. Smolka. Monte Carlo Methods for Process Algebra. *Proc. of the Int. Workshop on Algebraic Process Calculi: The First Twenty Five Years and Beyond*, Bertinoro, Italy, September, 2006, ENTCS vol. 162, pp. 203-207.
8. R. Grosu. And/Or Hierarchies and Round Abstraction, *Proc. of the MFCS'00, the 25th International Symposium on Mathematical Foundations of Computer Science*, Bratislava, Slovak Republic, August, 2000, pp. 52–68, Springer LNCS 1893. CiteSeer impact rating: 0.48 (top 52.25%).
9. I. Krüger, R. Grosu, P. Scholz and M. Broy. From MSCs to Statecharts. *Distributed and Parallel Embedded Systems*, pp. 61–71, Kluwer Academic Publishers, 1999. The paper has **236 citations** according to Google Scholar.
10. R. Grosu, M. Broy, B. Selic and G. Stefanescu. What is Behind UML-RT? *Behavioral Specifications of Businesses and Systems*, pp. 73-88, Kluwer Academic Publishers, 1999.
11. R. Brey, R. Grosu, F. Huber, B. Rumpe, W. Schwerin. Systems, Views and Models of UML. *The Unified Modeling Language, Technical Aspects and Applications*, pp. 93–109, Physica Verlag, Heidelberg, 1998. The paper has **43 citations** according to Google Scholar.

PhD Thesis

A Formal Foundation for Concurrent Object Oriented Programming. *Technical report TUM-I9444*, Technische Universität München, January, 1995, pp. 1–177. The thesis has **22 citations** according to Google Scholar.

Books

A Formal Foundation for UML for Real Time. *In progress. Started as habilitation thesis and joint Project between ObjecTime Limited and Technische Universität München*, 2001.

Technical Reports

1. R. Grosu, T. Stauner and I. Krüger. Hybrid Sequence Charts. *Technical Report TUM-I9914*, Technische Universität München, July, 1999, pp. 1–25.
2. R. Grosu and T. Stauner. Modular and Visual Specification of Hybrid Systems - An Introduction to HyCharts. *Technical Report TUM-I9801*, Technische Universität München, December, 1998, pp. 1–46.
3. R. Brey and R. Grosu. Modeling the dynamic behavior of objects: On events, messages and methods. *Technical report TUM- I9804*, Technische Universität München, February, 1998, pp. 1–15.
4. R. Grosu and K. Stølen. Compositional Specification of Mobile Systems. *Technical report TUM-I9748*, Technische Universität München, November, 1997, pp. 1–37.
5. R. Grosu, K. Stølen and M. Broy. A Model for Mobile Point-to-Point Dataflow Networks with Channel Sharing. *Technical report SFB-342/17/97A*, Technische Universität München, May, 1997, pp. 1–36.

6. R. Grosu and K. Stølen. A Denotational Model for Mobile Many-to-Many Dataflow Networks. *Technical report TUM-I9622*, Technische Universität München, May, 1996, pp. 1–36.
7. R. Grosu, K. Klein and B. Rumpe. Enhancing the SysLab System Model with State. *Technical report TUM I9631*, Technische Universität München, July, 1996, pp. 1–46.
8. R. Grosu, K. Klein, B. Rumpe and M. Broy. State Transition Diagrams. *Technical report TUM-I9630*, Technische Universität München, July, 1996, pp. 1–27. As of Sep. 20 2006, it has **43 citations**.
9. R. Grosu and B. Rumpe. Concurrent Timed Port Automata. *Technical report TUM-I9533*, Technische Universität München, October, 1995, pp. 1–34.
10. R. Grosu and K. Stølen. A Denotational Model for Mobile Point-to-Point Dataflow Networks. *Technical report TUM-I9527*, Technische Universität München, October, 1995, pp. 1–48.
11. R. Grosu and D. Nazareth. The Specification Language Spectrum: Core Language Report. *Technical report TUM-I9402*, Technische Universität München, August, 1994, pp. 1–32.
12. R. Grosu and F. Regensburger. The Logical Framework of SPECTRUM. *Technical report TUM-I9402*, Technische Universität München, March, 1994, pp. 1–39.
13. M. Broy, C. Facchi, R. Grosu, R. Hettler, H. Hußmann, D. Nazareth, F. Regensburger, O. Slotosch and K. Stølen. The Requirements and Design Specification Language SPECTRUM. An Informal Introduction (V 1.0). *Technical report TUM-I9311/TUM-I9312*, Technische Universität München, May, 1993, pp. 1–98. As of Sep. 20 2010, it has **138 citations**.