

CURRICULUM VITÆ

Roberto Giacobazzi

Professore Ordinario di Informatica

Informazioni generali

Nato il	06 Novembre 1964
Città natale	Modena
Cittadinanza	italiana
Residenza	Verona

Lingue conosciute

Italiano	Madre lingua
Inglese	Fluente scritto e orale
Francese	Fluente scritto e orale

Formazione

1990–1993	Dottorato di Ricerca in Informatica presso l'Università degli Studi di Pisa. Tesi: <i>Semantic aspects of logic program analysis</i> , relatore Prof. Giorgio Levi.
1983–1988	Laurea in Scienze dell'Informazione 110/110, presso l'Università degli Studi di Pisa. Relatore: Prof. Giorgio Levi.
1979–1983	Maturità Scientifica 60/60, presso Liceo Scientifico Statale A. Sordani di Pavullo nel Frignano (Modena).

Posizioni ricoperte

2000–2023	Full Professor in CS at the Department of Computer Science , University of Arizona (USA)
2000–2023	<i>Professore Ordinario</i> di Informatica, SSD INF/01 (01/B1), presso il Dipartimento di Informatica dell'Università degli Studi di Verona.
1998–2000	Vincitore del Concorso Nazionale per <i>Professore Associato</i> , SSD K05B - Informatica. È <i>Professore Associato</i> di Informatica, SSD K05B presso la Facoltà di Scienze Matematiche Fisiche e Naturali (MM.FF.NN.) dell'Università degli Studi di Verona e componente del Dipartimento Scientifico e Tecnologico della stessa università.
1995–1998	<i>Ricercatore Universitario a tempo indeterminato</i> presso il Dipartimento di Informatica dell'Università degli Studi di Pisa.
1993–1995	<i>Post doctoral fellowship</i> nell'ambito del programma <i>Human Capital and Mobility</i> (individual fellowship) della Comunità Europea, 5thFP presso il Laboratoire d'Informatique (LIX) dell'École Polytechnique, France.
1988–1990	Servizio militare presso l'Ufficio Addestramento e Studi dell'Accademia Militare di Modena e <i>assistente esercitatore</i> di <i>Calcolo Numerico e Teoria ed Applicazione delle Macchine Calcolatrici</i> per il 170 e 171 esimo Corso Allievi Ufficiali.

Ricerca scientifica

I principali interessi di ricerca riguardano l'analisi e la verifica di programmi e sistemi Software mediante interpretazione astratta e metodi formali. Gli ambiti applicativi riguardano: l'analisi statica di programmi, la trasformazione del codice, la sicurezza di sistemi software, l'analisi e la sintesi di malware e la protezione del software mediante offuscamento, watermarking, tamper-proofing. È autore di oltre 150 pubblicazioni su riviste ed atti di congressi internazionali con revisione (e.g., si veda [DBLP](#)).

Soggiorni all'estero

Sono considerati i soggiorni della durata di almeno 1 mese presso atenei ed istituti di ricerca internazionali.

1992	Visiting researcher al Department of Computer Science, The University of Arizona, USA Dicembre 1992.
1994	Visiting researcher al Department of Computer Science, Katholieke Universiteit Leuven, Leuven Belgique, Aprile-Maggio 1994.
1997	Visiting Professor al Department of Mathematics and Computer Science, Ben-Gurion University of Negev, Beer-Sheva, Israel. Ottobre & Novembre 1997.
1997	Visiting researcher al Department of Computer Science, The University of Melbourne Australia, Dicembre 1997.
1999	Visiting Professor al Department of Computer Science, KAIST – Korean Advanced Institute of Science and Technology, Taejon, South Korea, Giugno 1999.
2000	Visiting researcher al Laboratoire d'Informatique (LIX), École Polytechnique, Parigi, Giugno 2000.
2002	Visiting researcher al Laboratoire d'Informatique (LIX), École Polytechnique, Parigi, Giugno & Luglio 2002.
2006	Visiting researcher al Laboratoire d'Informatique (LIX), École Polytechnique, Parigi, Settembre 2006.
2008	Visiting Professor al Dept. d'Informatique (DI) della École Normale Supérieure, Parigi. Giugno-Agosto 2008.
2009	Visiting Professor al Computer Science Department della Universidad Complutense de Madrid (UCM). Maggio e Giugno 2009.
2010	Visiting Professor al Dept. d'Informatique (DI) della École Normale Supérieure, Parigi. Dicembre 2010.
2011	Visiting Professor al Dept. d'Informatique (DI) della École Normale Supérieure, Parigi. Maggio-Luglio 2011.
2014	Visiting Research Scientist at IRDETO Canada , working in white-box cryptography, software security and protection.
2014	Visiting Professor in CS at the department of Computer Science of the University of Louisiana at Lafayette USA.
2015	Visiting Prof. at the Department of Computing and Information Systems, University of Melbourne, Australia.
2015–2016	Sabbatical year as Senior Research Scientist at IMDEA Software Institute (Madrid, Spagna).

Awards

- (2022) WhatsApp Research Awards on Privacy Aware Program Analysis (with P. Cousot and F. Ranzato)
- (2021) Amazon Research Award (ARA) 2021 – AWS Automated Reasoning (with F. Ranzato)
- (2021) Meta Platforms Inc. unrestricted award of \$100.000 as support to continue the research in [\[51\]](#)
- (2020) Facebook Probability and Programming 2020 – Research Award (with F. Ranzato)

(2017) Talento Award by the Madrid Regional Government

(2013) Microsoft Research Software Engineering Innovation Foundation Award (SEIF Award)

(1993) Individual European HCM Human Capital and Mobility Award at Ecole Polytechnique, France

Pubblicazioni

Riviste

- [1] R. Giacobazzi, I. Mastroeni, and E. Perantoni. Adversities in Abstract Interpretation - Accommodating Robustness by Abstract Interpretation. To appear on *ACM Transactions on Programming Languages and Systems*. 2024.
- [2] M. Champion, M. Dalla Preda, R. Giacobazzi, and C. Urban. Monotonicity and the Precision of Program Analysis. The 51st ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2024), *PACMPL (POPL)*, POPL, (January 2024), 31 pages. 2024.
- [3] R. Bruni, R. Giacobazzi, R. Gori, and F. Ranzato. A Correctness and Incorrectness Program Logic. *Journal of the ACM* 70(2) Article No.: 15, pp 1–45 ACM. April 2023. [DOI](#). Extended version of [51].
- [4] R. Giacobazzi and F. Ranzato. History of Abstract Interpretation. *IEEE Annals of the History of Computing*. IEEE Computer Society. 2022. [DOI](#).
- [5] M. Champion, M. Dalla Preda, and R. Giacobazzi. Partial (In)Completeness in Abstract Interpretation. The 49th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2022), *PACMPL (POPL)* 6, POPL, Article 59 (January 2022), 31 pages. 2022. [DOI](#).
- [6] M. Champion, M. Dalla Preda, and R. Giacobazzi. Learning Metamorphic Malware Signatures from Samples. *Journal of Computer Virology and Hacking Techniques*. February 2021. [DOI](#)
- [7] N. Marastoni, R. Giacobazzi, and M. Dalla Preda. Data Augmentation and Transfer Learning to Classify Malware Images in a Deep Learning Context. *Journal of Computer Virology and Hacking Techniques*. April 2021. [DOI](#)
- [8] R. Bruni, R. Giacobazzi, R. Gori, D. Pavlovic, and I. Garcia. Abstract Extensionality: On the properties of incomplete abstract interpretations. The 47th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2020), *PACMPL 4(POPL)* 28:1-28:28, 2020. [DOI](#).
- [9] P. Cousot, R. Giacobazzi, and F. Ranzato. A^2I : Abstract² Interpretation. *The 46th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2019)*. *PACMPL 3(POPL)* 42:1-42:31, 2019. **Distinguished Paper award at POPL 2019**. [DOI](#).
- [10] R. Bruni, R. Giacobazzi, and R. Gori. Code Obfuscation Against Abstraction Refinement Attacks. *Formal Aspects of Computing*. (2018) 30:685-711. DOI 10.1007/s00165-018-0462-6. [DOI](#).
- [11] R. Giacobazzi and I. Mastroeni. Abstract Non-Interference: A unifying framework for weakening information-flow. *ACM Transactions on Privacy and Security (TOPS)*. Volume 21 Issue 2, Article No. 9, February 2018. [DOI](#).
- [12] R. Giacobazzi, I. Mastroeni, and M. Dalla Preda. Maximal incompleteness as obfuscation potency. *Formal Aspects of Computing* 29(1):3-31, Springer Verlag, 2017. [DOI](#).
- [13] I. Mastroeni and R. Giacobazzi. Weakening additivity in adjoining closures. *Order* 33:503–516, Springer Verlag 2016. [DOI](#).

- [14] R. Giacobazzi and I. Mastroeni. Making abstract models complete. *Mathematical Structures in Computer Science* 26(4):658-701 2016. [DOI](#).
- [15] M. Dalla Preda, R. Giacobazzi, and S. Debray. Unveiling Metamorphism by Abstract Interpretation of Code Properties. *Theoretical Computer Science*. Volume 577(27):74-97 2015. [DOI](#).
- [16] R. Giacobazzi and F. Ranzato. Correctness Kernels of Abstract Interpretations. *Information and Computation*, Volume 237, October 2014, pages 187–203. [DOI](#).
- [17] D. Dreyer, J. Field, R. Giacobazzi, M. Hicks, S. Jagannathan, M. Sagiv, P. Sewell, and P. Wadler. Principles of POPL. *SIGPLAN Notices* 48(4S): 12-16, 2013. [DOI](#).
- [18] C. Collberg, J. Davidson, R. Giacobazzi, Y. Gu, A. Herzberg, and F. Wang. Towards Digital Asset Protection - Position paper. In Expert Opinions of the *IEEE Intelligent Systems*. 26(6):8-13, 2011. [DOI](#).
- [19] A. Fortunato, M. Passuello, and R. Giacobazzi. Relock-based vulnerability in Windows 7. *Virus Bulletin*, pages 16-20, [VB August 2011](#). ISSN 1749-7027.
- [20] I. Mastroeni and R. Giacobazzi. An Abstract Interpretation-based Model for Safety Semantics. *Journal of Computer Mathematics* 88 (4): 665–694. March 2011. [DOI](#).
- [21] R. Giacobazzi and I. Mastroeni. Adjoining classified and unclassified information by abstract interpretation. *Journal of Computer Security*, 18(5):751–797. 2010. [DOI](#).
- [22] R. Giacobazzi and I. Mastroeni. A Proof System for Abstract Non-Interference. *Journal of Logic and Computation*, 20: 449-479. 2010. [DOI](#).
- [23] M. Dalla Preda and R. Giacobazzi. Semantic-based Code Obfuscation by Abstract Interpretation. *Journal of Computer Security*, 17(6):855-908, 2009. [DOI](#).
- [24] P. Cousot, R. Cousot, and R. Giacobazzi. Abstract Interpretation of Resolution-Based Semantics. *Theoretical Computer Science*, 410(46):4724–4746, 2009. [DOI](#).
- [25] R. Giacobazzi and F. Ranzato. Incompleteness of States w.r.t. Traces in Model Checking. *Information and Computation*, 204(3):376-407, 2006. [DOI](#).
- [26] R. Giacobazzi and I. Mastroeni. Transforming semantics by abstract interpretation. *Theoretical Computer Science*. 337(1-3):1-50. 2005. ISSN 0304-3975. [DOI](#).
- [27] R. Giacobazzi, F. Ranzato, and F. Scozzari. Making Abstract Domains Condensing. *ACM Transactions on Computational Logic (TOCL)*. 6(1):33-60. ACM Press, New York. 2005. ISSN 1529-3785. [DOI](#).
- [28] R. Giacobazzi and I. Mastroeni. Non-standard semantics for program slicing. *Higher-Order and Symbolic Computation (formerly LISP and Symbolic Computation)*. 16(4):297-339. 2003. Kluwer Academic Publishers ISSN 1388-3690. [DOI](#).
- [29] R. Giacobazzi, F. Ranzato, and F. Scozzari. Making abstract interpretations complete. *Journal of the ACM*, 47(2):361-416, 2000. ACM Press, New York. ISSN 0004-5411. [DOI](#).
- [30] R. Giacobazzi and F. Ranzato. The reduced relative power operation on abstract domains. *Theoretical Computer Science*, 216(1-2):159-211, Elsevier Science Pub., Amsterdam March 1999. ISSN 0304-3975. [DOI](#).
- [31] R. Giacobazzi and F. Scozzari. A logical model for relational abstract domains. *ACM Transactions on Programming Languages and Systems*, 20(5):1067-1109, ACM Press, New York September 1998. ISSN 0164-0925. [DOI](#).
- [32] R. Giacobazzi and F. Ranzato. Some properties of complete congruence lattices. *Algebra Universalis*, 40(2):189-200, Birkhäuser, Basilea 1998. ISSN 0002-5240. [DOI](#).

- [33] R. Giacobazzi and F. Ranzato. Uniform Closures: Order-theoretically reconstructing logic program semantics and abstract domain refinements. *Information and Computation*, 145(2):153-190, Academic Press, Orlando FL September 1998. ISSN 0890-5401. [DOI](#).
- [34] R. Giacobazzi and F. Ranzato. Optimal domains for disjunctive abstract interpretation. *Science of Computer Programming*, 32(1-3):177-210, Elsevier Science Pub., Amsterdam August 1998. ISSN 0167-6423. [DOI](#).
- [35] R. Giacobazzi. Abductive analysis of modular logic programs. *Journal of Logic and Computation*, 8(4):457-484, Oxford University Press, Oxford August 1998. ISSN 0955-792X. [DOI](#).
- [36] R. Giacobazzi and F. Ranzato. On the least complete extension of a complete subsemilattice. *Algebra Universalis* 38(3):235-237, Birkhäuser, Basilea 1997. ISSN 0002-5240. [DOI](#).
- [37] E. Zaffanella, R. Giacobazzi, and G. Levi. Abstracting Synchronization in Concurrent Constraint Programming. *Journal of Functional and Logic Programming*, 1997(6), The MIT Press, Cambridge Mass. November 1997. ISSN 1080-5230.
- [38] A. Cortesi, G. Filé, R. Giacobazzi, C. Palamidessi, and F. Ranzato. Complementation in Abstract Interpretation. *ACM Transactions on Programming Languages and Systems*, 19(1):7-47, ACM Press, New York January 1997. [DOI](#).
- [39] R. Giacobazzi, C. Palamidessi, and F. Ranzato. Weak Relative Pseudo-Complements of Closure Operators. *Algebra Universalis*, 36(3):405-412, Birkhäuser, Basilea December 1996. [DOI](#).
- [40] G. Filé, R. Giacobazzi, and F. Ranzato. A Unifying View on Abstract Domain Design. C. Hankin, H.R. Nielson, and P. Wegner editors, Computing Surveys Symposium on Models of Programming Languages and Computation. *ACM Computing Surveys*, 28(2):333-336, ACM Press, New York June 1996. [DOI](#).
- [41] R. Giacobazzi, S. Debray, and G. Levi. Generalized Semantics and Abstract Interpretation for Constraint Logic Programs. *Journal of Logic Programming*, 25(3):191-248, Elsevier North-Holland, New York December 1995. ISSN 0743-1066. [DOI](#).
- [42] R. Barbuti, M. Codish, R. Giacobazzi, and M. Maher. Oracle Semantics for PROLOG. *Information and Computation*, 122(2):178-200, Academic Press, Orlando FL November 1995. ISSN 0890-5401. [DOI](#).
- [43] B.M. Chang, K.M. Choe, and R. Giacobazzi. Improving execution models of logic programs by two-phase abstract interpretation. *Journal of the Electronics and Telecommunications Research Institute (ETRI)*. 16(4):27-47, ETRI Taejon, Korea January 1995. ISSN 1225-6463.
- [44] R. Barbuti, M. Codish, R. Giacobazzi, and G. Levi. Modelling Prolog Control. *Journal of Logic and Computation*, 3(6):579-603, Oxford University Press, Oxford December 1993. ISSN 0955-792X. [DOI](#).
- [45] R. Barbuti, R. Giacobazzi, and G. Levi. A General Framework for Semantics-based Bottom-up Abstract Interpretation of Logic Programs. *ACM Transactions on Programming Languages and Systems*, 15(1):133-181, ACM Press, New York January 1993. [DOI](#).
- [46] R. Barbuti and R. Giacobazzi. A Bottom-up Polymorphic Type Inference in Logic Programming. *Science of Computer Programming*, 19(3):281-313, Elsevier Science Pub., Amsterdam December 1992. [DOI](#).

Conferenze internazionali

- [47] R. Giacobazzi, I. Mastroeni and E. Perantoni. How fitting is your abstract domain? *The Static Analysis - 30th International Symposium, SAS 2023*, Lecture Notes in Computer Science. Cascais, Portugal, October 22-24, 2023.

- [48] M. Champion, C. Urban, Mila Dalla Preda and R. Giacobazzi, A Formal Framework to Measure the Incompleteness of Abstract Interpretations. *The Static Analysis - 30th International Symposium, SAS 2023*, Lecture Notes in Computer Science. Cascais, Portugal, October 22-24, 2023.
- [49] R. Giacobazzi and I. Mastroeni. Property-Driven Code Obfuscations Reinterpreting Jones-Optimality in Abstract Interpretation. *The Static Analysis - 29th International Symposium, SAS 2022*, Lecture Notes in Computer Science 13790, pages 247-271. Auckland, New Zealand, December 5-7, 2022. [DOI](#).
- [50] R. Bruni, R. Giacobazzi, R. Gori, and F. Ranzato. Abstract Interpretation Repair. *The 43rd ACM SIGPLAN International Conference on Programming Language Design and Implementation (PLDI'22)*, pages 426–441. June 13–17, 2022, San Diego, CA, USA. [DOI](#).
- [51] R. Bruni, R. Giacobazzi, R. Gori, and F. Ranzato. A Logic for Locally Complete Abstract Interpretations. *The 36th Annual Symposium on Logic in Computer Science. (LICS2021)*, pages 1-13. **Distinguished Paper Award at LICS 2021**. Rome, 29 June – 02 July, 2021. [DOI](#). Selected for the Special Issue of LICS'21, to appear on the *Journal of the ACM* [3].
- [52] M. Dalla Preda, R. Giacobazzi, and N. Marastoni. Formal Framework for Reasoning About the Precision of Dynamic Analysis. *The 27th Static Analysis Symposium (SAS2020)*. Lecture Notes in Computer Science, vol 12389, pages 178-199. 2020. [DOI](#).
- [53] M. Champion, M. Dalla Preda, and R. Giacobazzi. Abstract Interpretation of Indexed Grammars. *The 26th Static Analysis Symposium (SAS2019)*. Lecture Notes in Computer Science, vol 11822, pages 121–139. Springer 2019. [DOI](#).
- [54] N. Marastoni, R. Giacobazzi, and M. Dalla Preda. A Deep Learning Approach to Program Similarity. *The 1st International Workshop on Machine Learning and Software Engineering in Symbiosis*, Montpellier, France, September 3, 2018. pages 26-35. ACM Press. [DOI](#).
- [55] F. Bonchi, P. Ganty, R. Giacobazzi, and D. Pavlovic. Sound up-to techniques and Complete abstract domains. *Proceedings of the 33rd Annual ACM/IEEE Symposium on Logic in Computer Science, LICS 2018*, Oxford, UK, July 09-12, 2018, pages 175–184 ACM 2018. [DOI](#).
- [56] P. Cousot, R. Giacobazzi, and F. Ranzato. Program Analysis is Harder than Verification: A Computability Perspective. *30th International Conference on Computer Aided Verification (CAV 2018)*. Lecture Notes in Computer Science 10980 and 10981, pages 75-95, Springer Verlag 2018. [DOI](#).
- [57] R. Bruni, R. Giacobazzi, and R. Gori. Code Obfuscation Against Abstract Model Checking Attacks. *19th International Conference on Verification, Model Checking, and Abstract Interpretation. VMCAI 2018*. Lecture Notes in Computer Science 10747, pages 94–115. Springer 2018. [DOI](#).
- [58] R. Sarteau, M. Dalla Preda, A. Farinelli, R. Giacobazzi, and I. Mastroeni. Active Android malware analysis: an approach based on stochastic games. *SSPREW at ACSAC 2016*: 5:1-5:10. 2016. [DOI](#).
- [59] M. Dalla Preda, R. Giacobazzi, and I. Mastroeni. Completeness in Approximate Transduction. In *The 23th International Static Analysis Symposium SAS'16*, Lecture Notes in Computer Science, pages 129-145, Springer Verlag. September 2016, Edinburgh, UK. [DOI](#).
- [60] M. Dalla Preda, R. Giacobazzi, A. Lakhotia, and I. Mastroeni. Abstract Symbolic Automata. In the *42th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL'15)*, pages 329–341, Mumbai, India - January 15 - 17, 2015. ACM 2015. [DOI](#).
- [61] R. Giacobazzi, F. Logozzo, and F. Ranzato. Analyzing Program Analyses. In the *42th Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL'15)*, pages 261–273, Mumbai, India - January 15 - 17, 2015. ACM 2015. [DOI](#).

- [62] M. Dalla Preda, I. Mastroeni, and R. Giacobazzi. Analyzing program dependencies for malware detection. In S. Jagannathan and P. Sewell Eds., *Proceedings of the 3rd ACM SIGPLAN Program Protection and Reverse Engineering Workshop 2014, PPREW 2014*, pages 6:1–6:7, ACM. DOI.
- [63] R. Giacobazzi. Obscuring Code — Unveiling and Veiling Information in Programs. In *16th Int. Symp. on Principles and Practice of Declarative Programming (PPDP 2014)* and *24th Int. Symp. on Logic-Based Program Synthesis and Transformation (LOPSTR 2014)*, pages 211–212. (**Invited lecture**) Canterbury, UK., September 8–11, 2014. DOI.
- [64] M. Dalla Preda, I. Mastroeni, and R. Giacobazzi. Formal Framework for Property-driven Obfuscations. In *Proc. of the 19th Int. Symp. on Fundamentals of Computer Theory, FCT 2013*, Volume 8070 of Lecture Notes in Computer Science, pages 133–144, Springer Verlag. August 19–21 Liverpool, UK. 2013. DOI.
- [65] A. Lakhota, M. Dalla Preda, and R. Giacobazzi. Fast location of similar code fragments using semantic ‘juice’. In *2nd ACM SIGPLAN Program Protection and Reverse Engineering (PPREW)*. ACM, Article No.: 5, pages 1–6, 2013. DOI.
- [66] R. Giacobazzi, N. D. Jones, and I. Mastroeni. Obfuscation by Partial Evaluation of Distorted Interpreters. In *ACM SIGPLAN Partial Evaluation and Program Manipulation (PEPM’12)*, pages 63–72. Philadelphia USA, January 23–24, 2012. DOI.
- [67] M. Dalla Preda, W. Feng, R. Giacobazzi, R. Greechie, and A. Lakhota. Twisting Additivity in Program Obfuscation. In *Program Protection and Reverse Engineering (PPREW)*. Communications in Computer and Information Science, 285, pages 336–347, 2012. Grenoble, March 28–30, 2012. DOI.
- [68] R. Giacobazzi. Software Security by Obscurity — A Programming Language Perspective. (Position Paper). In *6th International Conference on Information Systems, Technology and Management*. In Communications in Computer and Information Science, 285, pages 427–432, 2012. Grenoble, March 28–30, 2012. DOI.
- [69] R. Giacobazzi, I. Mastroeni, and D. Nikolic. Strong Preservation by Model Deformation. In *The Sixth IEEE International Symposium on Theoretical Aspects of Software Engineering, TASE2012*, pages 33–40. IEEE Press. Beijing, China, July 4–6, 2012. DOI.
- [70] R. Giacobazzi and I. Mastroeni. Making abstract interpretation incomplete: Modeling the potency of obfuscation. In *The 19th International Static Analysis Symposium SAS’10*, volume 7460 of Lecture Notes in Computer Science, pages 129–145, Springer Verlag. 11–13 September 2012, Deauville, France. DOI.
- [71] M. Dalla Preda, R. Giacobazzi, S. Debray, K. Coogan, and G. Townsend. Modelling Metamorphism by Abstract Interpretation. *The 17th International Static Analysis Symposium SAS’10*, volume 6337 of Lecture Notes in Computer Science, pages 218–235, Springer Verlag. Perpignan, France, September 14–16, 2010. DOI.
- [72] G. Delzanno, R. Giacobazzi, and F. Ranzato. Static Analysis, Abstract Interpretation and Verification in (Constraint Logic) Programming (**Invited paper**). In *A 25 years Perspective on Logic Programming: Achievements of the Italian Association for Logic Programming*, volume 6125 of Lecture Notes in Computer Science, pages 136–158. Springer Verlag 2010. DOI.
- [73] R. Giacobazzi and F. Ranzato. Example-Guided Abstraction Simplification. *37th International Colloquium on Automata, Languages and Programming, ICALP’10*, volume 6199 of Lecture Notes in Computer Science, pages 211–222, Springer Verlag. July 5–10, 2010, Bordeaux, France. DOI.
- [74] R. Giacobazzi and I. Mastroeni. Transforming abstract interpretations by abstract interpretation (**Invited Lecture**). *The 15th International Static Analysis Symposium SAS’08*, volume 5079 of Lecture Notes in Computer Science, pages 1–17, Springer Verlag. Valencia, Spain, 16–18 July, 2008. DOI.

- [75] M. Dalla Preda, R. Giacobazzi, and E. Visentini. Hiding software watermarks in loop structures. *The 15th International Static Analysis Symposium SAS'08*, volume 5079 of Lecture Notes in Computer Science, pages 174-188, Springer Verlag. Valencia, Spain, 16-18 July, 2008. [DOI](#).
- [76] R. Giacobazzi. Hiding Information in Completeness Holes - New perspectives in code obfuscation and watermarking (**Invited Lecture**). *The 6th IEEE International Conferences on Software Engineering and Formal Methods, SEFM'08*, pages 7-20, IEEE Press. Cape Town (South Africa), 10-14 November 2008. [DOI](#).
- [77] A. Banerjee, R. Giacobazzi, and I. Mastroeni. What you lose is what you leak: Information Leakage in Declassification Policies. *Twenty-third Conference on the Mathematical Foundations of Programming Semantics (MFPS'07)*. Electronic Notes in Theoretical Computer Science. volume 173, pages 47-66, Tulane University New Orleans, LA, USA April 11 - April 14, 2007. [DOI](#).
- [78] F. Banterle and R. Giacobazzi. A Fast Implementation of the Octagon Abstract Domain on Graphics Hardware. In the *14th International Static Analysis Symposium SAS'07*, G. Filé & H. Riis-Nielsen (eds). Volume 4634 of Lecture Notes in Computer Science, pages 315-332, Springer Verlag. Kongens Lyngby, Denmark, 22-24 August, 2007. [DOI](#).
- [79] M. Dalla Preda, M. Madou, K. De Bosschere, and R. Giacobazzi. Opaque Predicate Detection by Abstract Interpretation. In Proceedings of the *11th International Conference on Algebraic Methodology and Software Technology (AMAST'06)*. Volume 4019 of Lecture Notes in Computer Science, pages 81-95, Springer Verlag. July 2-8, 2006, Kuressaare, Estonia. [DOI](#).
- [80] R. Giacobazzi and I. Mastroeni. Timed Abstract Non-Interference. In the *International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'05)*. Volume 3829 of Lecture Notes in Computer Science, Springer Verlag, pages 289-303. September 26-28, 2005, Uppsala, Sweden. [DOI](#).
- [81] R. Giacobazzi and I. Mastroeni. Generalized Abstract Non-Interference - Abstract Secure Information-flow Analysis for Automata . In *Third International Workshop on "Mathematical Methods, Models and Architectures for Computer Networks Security (MMM-ACNS'05)*. Volume 3685 of Lecture Notes in Computer Science, pages 221-234. Springer Verlag. September 24-28, 2005, St. Petersburg, Russia. [DOI](#).
- [82] M. Dalla Preda and R. Giacobazzi. Control Code Obfuscation by Abstract Interpretation. In *Proceedings of the 3rd IEEE International Conference on Software Engineering and Formal Methods (SEFM'05)*. IEEE Computer Society Press, pages 301-310. September 7-9, 2005, Koblenz, Germany. [DOI](#).
- [83] M. Dalla Preda and R. Giacobazzi. Semantic-based Code Obfuscation by Abstract Interpretation. In *Proceedings of the 32nd International Colloquium on Automata, Languages and Programming (ICALP'05 - Track B)*. Volume 350 of Lecture Notes in Computer Science, pages 1325-1336, Springer Verlag. July 11-15, 2005, Lisboa. [DOI](#).
- [84] R. Giacobazzi and I. Mastroeni. Adjoining Declassification and Attack Models by Abstract Interpretation. In M. Sagiv Editor, *European Symposium on Programming (ESOP'05)*. Volume 3444 of Lecture Notes in Computer Science, pages 295-310, Springer Verlag. Edinburgh, Scotland, April 2-10, 2005. [DOI](#).
- [85] R. Giacobazzi and I. Mastroeni. Proving abstract non-interference. In the *Annual Conference of the European Association for Computer Science Logic (CSL'04)*. Volume 3210 of Lecture Notes in Computer Science, pages 280-294, Springer-Springer Verlag. Karpacz, September 20-24, 2004. [DOI](#).
- [86] S. Genaim, R. Giacobazzi, and I. Mastroeni. Modeling Information Flow Dependencies with Boolean Functions. In the *2004 IFIP WG 1.7, ACM SIGPLAN and GI FoMSESS Workshop on Issues in the Theory of Security (WITS'04)*. 2004.

- [87] R. Giacobazzi and I. Mastroeni. Abstract Non-Interference: Parameterizing Non-Interference by Abstract Interpretation. In *The 31st Annual ACM SIGPLAN-SIGACT Symposium on Principles of Programming Languages (POPL'04)*, pages 186-197. ACM press. 2004. [DOI](#).
- [88] R. Giacobazzi and I. Mastroeni. Domain Compression for Complete Abstractions. In *Fourth International Conference on Verification, Model Checking and Abstract Interpretation (VMCAI'03)*, volume 2575 of *Lecture Notes in Computer Science*, pages 146-160, Springer Verlag. New York University, New York, USA January 9-11, 2003. [DOI](#).
- [89] R. Giacobazzi and I. Mastroeni. Compositionality in the puzzle of semantics. In *Proc. of the ACM SIGPLAN Symp. on Partial Evaluation and Semantics-Based Program Manipulation PEPM'02*, pages 87-97, Portland, Oregon, USA, January 14-15, 2002. [DOI](#).
- [90] R. Giacobazzi and F. Ranzato. States vs. Traces in Model Checking by Abstract Interpretation. In M. Hermenegildo and G. Puebla Eds. *The 9th International Static Analysis Symposium SAS'02*, volume 2477 of *Lecture Notes in Computer Science*, pages 461-476, Springer Verlag. Madrid, 17-20 September, 2002. [DOI](#).
- [91] R. Giacobazzi and E. Quintarelli. Incompleteness, counterexamples and refinements in abstract model-checking. In P. Cousot Ed. *The 8th International Static Analysis Symposium SAS'01*, volume 2126 of *Lecture Notes in Computer Science*, pages 356-373, Springer Verlag. La Sorbonne, Paris, 16-18 July, 2001. [DOI](#).
- [92] A. Dovier, R. Giacobazzi, and E. Quintarelli. Refining and Compressing Abstract Model Checking. *Electronic Notes in Theoretical Computer Science ENTCS volume 48, pages 90-107, Elsevier 2001*. [DOI](#).
- [93] R. Giacobazzi and I. Mastroeni. A characterization of symmetric semantics by domain complementation. In *Proc. of the 2nd ACM International Conference on Principles and Practice of Declarative Programming PPDP'00*, pages 115-126. ACM Press. Montreal, Canada, September 20-22, 2000. [DOI](#).
- [94] R. Giacobazzi. A Tutorial on Domain Theory in Abstract Interpretation. In G. Levi Editor, *Fifth International Static Analysis Symposium (SAS '98)*, Pisa, volume 1503 of *Lecture Notes in Computer Science*, pages 349-350. Springer Verlag, Berlin 1998. [DOI](#).
- [95] R. Giacobazzi, F. Ranzato, and F. Scozzari. Building complete abstract interpretations in a linear logic-based setting. In G. Levi Editor, *Fifth International Static Analysis Symposium (SAS '98)*, Pisa, volume 1503 of *Lecture Notes in Computer Science*, pages 215-229. Springer Verlag, Berlin 1998. [DOI](#).
- [96] R. Giacobazzi, F. Ranzato, and F. Scozzari. Complete abstract interpretations made constructive. In L. Brim, J. Gruska, and J. Zlatuska Editors, *The 23rd International Symposium on Mathematical Foundations of Computer Science (MFCS '98)*, Brno Czech Republic, volume 1450 of *Lecture Notes in Computer Science*, pages 366-377. Springer Verlag, Berlin 1998. [DOI](#).
- [97] R. Giacobazzi and F. Ranzato. Completeness in abstract interpretation: a domain perspective. In M. Johnson Editor, *Sixth International Conference on Algebraic Methodology and Software Technology, Sydney Australia*, volume 1349 of *Lecture Notes in Computer Science*, pages 231-245. Springer Verlag, Berlin, 1997. [DOI](#).
- [98] R. Giacobazzi and F. Scozzari. Intuitionistic implication in abstract interpretation. In H. Glaser, P. Hartel, and H. Kuchen editors, *Proc. 9th International Symposium on Programming Languages, Implementations, Logics, and Programs (PLILP '97)*, Southampton UK, volume 1292 of *Lecture Notes in Computer Science*, pages 175-189. Springer Verlag, Berlin 1997. [DOI](#).
- [99] R. Giacobazzi and F. Ranzato. Refining and compressing abstract domains. In P. Degano, R. Gorrieri, and A. Marchetti-Spaccamela editors, *Proc. of the 24th International Colloquium on Automata, Languages, and Programming (ICALP '97)*, Bologna I, volume 1256 of *Lecture Notes in Computer Science*, pages 771-781. Springer Verlag, Berlin 1997. [DOI](#).

- [100] R. Giacobazzi and F. Ranzato. Complementing Logic Program Semantics. In M. Hanus and M. Rodriguez Artalejo editors, *Proc. of the Fifth International Conference on Algebraic and Logic Programming (ALP '96)*, Aachen D, volume 1139 of Lecture Notes in Computer Science, pages 238-253. Springer Verlag, Berlin 1996. [DOI](#).
- [101] R. Giacobazzi and F. Ranzato. Compositional Optimization of Disjunctive Abstract Interpretations. In H.R. Nielson editor, *Proc. of the 1996 European Symposium on Programming (ESOP'96)*, Linköping (Sweden), volume 1058 of Lecture Notes in Computer Science, pages 141-155. Springer Verlag, Berlin 1996. [DOI](#).
- [102] R. Giacobazzi. “Optimal” Collecting Semantics for Analysis in a Hierarchy of Logic Program Semantics. In C. Puech and R. Reischuk editors, *Proc. of the 13th International Symposium on Theoretical Aspects of Computer Science (STACS '96)*, Grenoble F, volume 1046 of Lecture Notes in Computer Science, pages 503-514. Springer Verlag, Berlin 1996. [DOI](#).
- [103] R. Giacobazzi and F. Ranzato. Functional dependencies and Moore-set completions of abstract interpretations and semantics. In J. Lloyd editor, *Proc. 1995 Int'l Symposium on Logic Programming (ILPS '95)*, Portland OR, pages 321-335. The MIT Press, Cambridge Mass. 1995.
- [104] A. Cortesi, G. Filé, R. Giacobazzi, C. Palamidessi, and F. Ranzato. Complementation in Abstract Interpretation. In A. Mycroft editor, *Proc. of Int. Static Analysis Symposium (SAS '95)*, Glasgow UK, volume 983 of Lecture Notes in Computer Science, pages 100–117. Springer Verlag, Berlin 1995. [DOI](#).
- [105] R. Giacobazzi. Abductive analysis of modular logic programs. In M. Bruynooghe editor, *Proc. 1994 Int'l Symposium on Logic Programming (ILPS '94)*, Ithaca NY, pages 377–391. The MIT Press, Cambridge Mass. 1994.
- [106] E. Zaffanella, R. Giacobazzi, and G. Levi. Abstracting Synchronization in Concurrent Constraint Programming. In M. Hermenegildo and J. Penjam editors, *Proc. of the Sixth International Symposium on Programming Language Implementation and Logic Programming (PLILP '94)*, Madrid SP, volume 844 of Lecture Notes in Computer Science, pages 57–72. Springer Verlag, Berlin 1994. [DOI](#).
- [107] M. Gabbrielli and R. Giacobazzi. Goal Independency and Call Patterns in the Analysis of Logic Programs. In E. Deaton, D. Oppenheim, J. Urban, and H. Berghel editors, *Proc. of the Ninth ACM Symposium on Applied Computing (SAC '94)*, Phoenix AZ, pages 394–399. ACM Press, New York 1994. [DOI](#).
- [108] B.M. Chang, K.M. Choe, and R. Giacobazzi. Abstract Filters: Improving Bottom-up Executions of Logic Programs by Two-phase Abstract Interpretation. In E. Deaton, D. Oppenheim, J. Urban and H. Berghel editors, *Proc. of the Ninth ACM Symposium on Applied Computing (SAC '94)*, Phoenix AZ, pages 388–393. ACM Press, New York 1994. [DOI](#).
- [109] R. Giacobazzi, S. Debray, and G. Levi. Joining Abstract and Concrete Computations in Constraint Logic Programming. In M. Nivat, C. Rattray, T. Rus and G. Scollo editors, *Algebraic Methodology and Software Technology (AMAST '93), Proceedings of Third Int. Conference, London UK, Workshops in Computing Series*, pages 109–126. Springer Verlag, Berlin 1993. [DOI](#).
- [110] R. Bagnara, R. Giacobazzi, and G. Levi. An Application of Constraint Propagation to Data-Flow Analysis. In *Proc. of the Ninth IEEE Conference on Artificial Intelligence for Applications (CAIA '93)*, Orlando FL, pages 270-276. IEEE Computer Society Press, Los Alamitos CA 1993. [DOI](#).
- [111] M. Codish, S. Debray and R. Giacobazzi. Compositional Analysis of Modular Logic Programs. In *Proc. of the Twentieth Annual ACM SIGACT/SIGPLAN Symposium on Principles of Programming Languages (POPL '93)*, Charleston SC, pages 451–464. ACM Press, New York 1993. [DOI](#).

- [112] R. Barbuti, M. Codish, R. Giacobazzi, and M. Maher. Oracle Semantics for PROLOG. In H. Kirchner and G. Levi, editors, *Algebraic and Logic Programming, Proceedings of the Third International Conference (ALP '92), Volterra I*, volume 632 of Lecture Notes in Computer Science, pages 100–114. Springer Verlag, Berlin 1992. [DOI](#).
- [113] R. Giacobazzi, S. Debray, and G. Levi. A Generalized Semantics for Constraint Logic Programs. In *Proceedings of the International Conference on Fifth Generation Computer Systems 1992 (FGCS '92), Tokyo*, pages 581–591. ICOT, Tokyo 1992.
- [114] R. Giacobazzi and L. Ricci. Detecting Determinate Computations by a Bottom-up Abstract Interpretation. In B. Krieg-Brückner, editor, *Proc. European Symposium on Programming (ESOP '92), Rennes F*, volume 582 of Lecture Notes in Computer Science, pages 167–181. Springer Verlag, Berlin 1992. [DOI](#).
- [115] R. Barbuti, M. Codish, R. Giacobazzi, and G. Levi. Modelling Prolog Control. In *Proc. Nineteenth Annual ACM SIGACT/SIGPLAN Symposium on Principles of Programming Languages (POPL '92), Albuquerque NM*, pages 95–104. ACM Press, New York 1992. [DOI](#).
- [116] R. Giacobazzi and L. Ricci. Pipeline Optimizations in AND-Parallelism by Abstract Interpretation. In D. H. D. Warren and P. Szeredi, editors, *Proc. Seventh Int'l Conf. on Logic Programming (ICLP '90), Jerusalem IL*, pages 291–305. The MIT Press, Cambridge Mass. 1990.

Books

- [117] A. Dovier and R. Giacobazzi. *Fondamenti dell'Informatica: Linguaggi Formali, Calcolabilità e Complessità*. Bollati Boringhieri 2020. 320 pages. ISBN 9788833933795. (In Italian).

Last update: 28 febbraio 2024 · Made with $\text{\LaTeX}$