

# Silvio Ranise

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## *Personal*

Born on                      in  
  
Italian Citizen

## *Experience and Job History*

- Jan 2017—, **Head** of the Security and Trust Research Unit, Fondazione Bruno Kessler
- Jan 2014—Jan 2020, Abilitazione Scientifica Nazionale a Professore Ordinario, Settore Concorsuale INF/01/B1
- May 2013—, **Senior Researcher** (R2), Fondazione Bruno Kessler (Trento, Italy), Security and Trust Research Unit [permanent position]
- April 2010—April 2013, **Senior Researcher** (R2), Fondazione Bruno Kessler (Trento, Italy), Security and Trust Research Unit [on-leave from INRIA permanent position, tenure track]
- May 2008—March 2010, **Research Associate**, Univ. degli Studi di Verona (Verona, Italy) in the context of the European Project AVANTSSAR [on-leave from INRIA permanent position]
- Jan 2006—April 2008, **INRIA Senior Researcher**, Laboratoire Lorrain de Recherche en Informatique et ses Applications (LORIA) (Nancy, France) [permanent position]
- Sep 2003—Dec 2005, **INRIA Researcher**, LORIA [permanent position]
- Sep 2002—Aug 2003, **INRIA Junior Researcher**, LORIA [tenure track]
- Mar 2002, **Qualification aux fonctions de Maître de Conférences**, Section 27 (Informatique)
- Aug 2001—Aug 2002, **Assistant Professor**, U. Henri Poincaré (Nancy, France) [temporary position]

## *Education*

- Jan 2002, **joint PhD in Computer Science Engineering**, U. di Genova and Henri Poincaré (Nancy, France)
- Dec 1997, **Laurea Ingegneria Informatica**, U. di Genova: 110/110 *magna cum laude*

## Research Interests

- Identity and Access Management Systems, Security of Cloud and Mobile Applications, Legal Compliance Checking for Data Protection and Privacy
- Formal Specification, Verification, and Analysis of Access Control Policies
- Model checking of infinite state systems, Program Verification and Analysis
- Satisfiability Modulo Theories (SMT) solvers, Decision procedures, Automated Theorem Proving

## Awards

August 2010, co-recipient of the **Haifa Verification Conference (HVC) Award** for the “*pivotal and continuous role in building and promoting the Satisfiability Modulo Theories (SMT) community [...] Given the scope of the award, receiving it is a major compliment to the joint effort of this group and an act of recognition of the great impact that you and the SMT community in general achieved, both in the industry and in the academia*”

## Mentoring and Supervision

- Member of the PhD Program Committee of the Dept. of Computer Science and Systems Engineering, U. of Genova [2016—]
- Member of the PhD Program Committee of the Dept. of Computer Science, U. of Verona [2011—2014]
- 16 master students
- 9 PhD students (5 past and 4 ongoing)
  - Duc Khanh Tran, “Design of Decision Procedure by Combination and Saturation” (2006, co-advised with Hélène Kirchner, CNRS, and Christophe Ringeissen, INRIA).
  - Daniele Zucchelli, “Combination Methods for Software Verification” (2007, co-advised with Silvio Ghilardi, Univ. of Milano, and Michael Rusinowitch, INRIA).
  - Michele Barletta, “Authorization Policies in Security-Sensitive Web Services and Applications: Formal Modeling and Analysis” (2012, co-advised with Luca Viganò, Univ. of Verona).
  - Tuan Anh Truong, “Efficient Automated Security Analysis of Complex Authorization Policies” (2015, co-advised with Alessandro Armando, Univ. of Genova and FBK).
  - Daniel Ricardo dos Santos, “Automatic Security Analysis of Process- and Data-centric Applications in the Cloud” (2017, co-advised with Luca Compagna, SAP Labs, and Serena Ponta, SAP Labs).
  - Hari Siswantoro, “An Integrated Purpose Control Framework for Enhanced Privacy Protection” (ongoing, co-advised with Alessandro Armando, Univ. of Genova and FBK).
  - Giada Sciarretta, “Security and Privacy of Mobile Applications: Authentication and Authorization” (ongoing, co-advised with Alessandro Armando, Univ. of Genova and FBK, and Roberto Carbone, FBK).
  - Tahir Ahmed, “Security and Privacy of IoT” (ongoing, co-advised with Alessandro Armando and Gabriele Costa, Univ. of Genova).
  - Lorenzo Candea, “Security and Privacy of Personal Data Stores” (ongoing, co-advised with Bruno Lepri, FBK, and Michele Vescovi, Telcom Italia).

- 3 post-docs
  - Calogero Zarba, April 2004-March 2005. Now he is software developer at Neodata Group, Italy.
  - Clara Bertolissi, October 2011-September 2013. Now she holds a teaching and research position at Aix-Marseille University, France.
  - Riccardo Traverso, January 2014-December 2016. Now he is software developer at ???, Trento, Italy.

## Service

- Head of the *Consorzio Interuniversitario Nazionale per l'Informatica (CINI)* node at FBK [2015—]
- Coordinator of *The Satisfiability Modulo Theories Library (SMT-Lib)* [2003—2009]
- Member of the IFIP WG 11.3 Working Group on Data and Applications Security and Privacy [2012—]
- Member of Steering Committees
  - *International Conference on Future Data and Security Engineering (FDSE)* [20016—]
  - *International Conference on Advanced Computing and Applications (ACOMP)* [2016—]
  - *Frontiers of Combining Systems (FroCoS) Symposium Series* [2015—]
  - *Satisfiability Modulo Theories (SMT) Workshop Series* [2011—2013]
  - *First-Order Theorem Proving (FTP) Workshop Series* [2005—2013]
  - *The Calculemus Project* [2002—2008]
- Member of Program Committees
  - 15th International Conference on Privacy, Security, and Trust (PST) [2017]
  - 10th International Symposium on Foundations and Practice of Security (SACMAT) [2017]
  - 4th International Conference on Future Data and Security Engineering [2017 (co-chair of the security track)]
  - 6th International Symposium “From Data to Models and Back (DataMod)” [2017]
  - First Italian Conference on Cyber Security (ITA-SEC) [2017]
  - Int. Conference on Tools & Methods of Program Analysis (TMPA) [2017]
  - International Joint Conference on Artificial Intelligence (IJCAI) [2017,2016]
  - 13th IEEE International Conference on Advanced and Trusted Computing (ATC) [2017,2016]
  - Second international conference on Intelligent Information Processing, Security and Advanced Communication (IPAC) [2016]
  - 10th International Conference on Information Security Theory and Practice (WISTP) [2016]
  - International Conference on Formal Engineering Methods (ICFEM) [2017, 2016, 2015]
  - Annual IFIP WG 11.3 Working Conference on Data and Applications Security and Privacy (DBSeC) [2017,2016 (co-chair), 2015]
  - 5th ACM Conference on Data and Application Security and Privacy (ACM CODASPY), Poster session [2016, 2015]
  - Advanced Intrusion Detection and Prevention Workshop (AIDP) [2014]

- 28-esimo Convegno Italiano di Logica Computazionale (CILC) [2013]
- 2nd International Symposium on Privacy and Security in Cloud and Social Networks (PriSecCSN) [2013]
- International Workshop on Data Privacy Management (DPM) [2017, 2016, 2015, 2014, 2013]
- International Joint Conference on e-Business and Telecommunications (SeCrypt) [2017, 2016, 2015, 2014, 2013]
- 28th Symposium On Applied Computing, Enterprise Engineering Track (SAC EE) [2013]
- International Symposium on Foundations and Practice of Security (FPS) [2017, 2016, 2015, 2014, 2013, 2012]
- 8th International Conference on Security and Privacy in Communication Networks (SecureComm) [2012]
- International Workshop on Security and Trust Management (STM) [2017, 2016, 2015, 2014, 2013 (co-chair), 2012]
- Workshop on Security in Business Processes (SBP) [2014, 2013, 2012]
- Automated Reasoning for Enterprise Information Systems (AREIS) [2012]
- WooPS: Int'l Workshop on Petri Net-based Security (WooPS) [2012]
- Int. Symposium on Information and Communication Technology (SoICT) [2013, 2012, 2011]
- BPM Workshop on Workflow Security Audit and Certification (Wf SAC) [2011]
- International Workshop on First-Order Theorem Proving (FTP) [2011, 2009, 2007]
- Conference on Intelligent Computer Mathematics (CICM, Calculemus Track) [2011]
- 9th Int. Workshop on Automated Verification of Critical Systems [2010, 2009]
- Practical Aspects of Automated Reasoning [2010, 2008]
- 4th Int. Joint Conference on Automated Reasoning [2008]
- International Symposium on Frontiers of Combining Systems [2017, 2015 (co-chair), 2013, 2011, 2009, 2007]
- International Workshop on Satisfiability Modulo Theories (SMT) [2013, 2009, 2008, 2007]
- Disproving—Non-Theorems, Non-Validity, Non-Provability [2007]
- Automated Deduction: Decidability, Complexity, Tractability (ADDCT) [2014, 2013, 2009, 2008, 2007]
- Empirically Successful Computerized Reasoning [2005]
- Pragmatics of Decision Procedures in Automated Reasoning [2006, 2005, 2004, 2003]
- Calculemus [2006, 2005]
- Empirically Successful Classical Automated Reasoning [2005]

## Teaching

- Security Analysis Techniques based on SMT solving (AA 2016/2017): Phd course, U. di Genova (Genova, Italy)
- Security Analysis Techniques based on SMT solving (AA 2015/2016): Phd course, U. di Trento (Trento, Italy)
- Seminar “Access Control: Models and Analysis” (AA 2011/2012), École Central de Marseille (Marseille, France)

- Fundamentals of Software Engineering (AA 2011/2012): Master in Game Programming, U. di Verona (Verona, Italy)
- Infinite state model-checking and decision procedures (AA 2008/2009): Phd course, U. di Milano (Milano, Italy)
- Metodi formali per la verifica dei protocolli (AA 2006/2007, 2005/2006, 2004/2005, 2003/2004): Laurea course, U. di Milano (Milano, Italy)
- Procédures de décision et vérification de programmes (AA 2007/2008, 2005/2006): Master en Recherche (Master course), U. H. Poincaré (Nancy, France)
- Techniques for Building, Combining, and Integrating Decision Procedures (AA 2004/2005): PhD course, U. di Trento (Trento, Italy)
- Teaching assistant C++ programming lab (AA 2000/2001, 1999/2000, 1998/1999): Laurea degree, U. di Genova (Genova, Italy)

## *Systems*

- ASASP (<http://st.fbk.eu/technologies/asasp>): Automated Symbolic Analysis of Security Policies
- MCMT (<http://users.mat.unimi.it/users/ghilardi/mcmt/>): Model Checker Modulo Theories
- HARVEY: a Satisfiability Modulo Theory solver (no more maintained)
- RDL: a first-order theorem prover with theories (no more maintained)

## *Involvement in projects*

- Mar 2013-Mar 2017, Executive officer and supervisor of one PhD student at Fondazione Bruno Kessler: SECENTIS-A European Industrial Doctorate on Security and Trust of Next Generation Enterprise Information Systems, European Union grant 317387 under the FP7-PEOPLE-2012-ITN.
- Oct 2012-Sep 2014, Scientific supervisor of one fellow at Fondazione Bruno Kessler: RESTATE-Regional innovation strategy relies on researchers' mobility, Marie Curie Action under the People of FP7 (COFUND) to co-funds regional, national and international fellowship programmes for research training and career development.
- Jul 2013-Mar 2015, Principal Investigator of the Research Unit at Fondazione Bruno Kessler (my share: 37,000 Euros): Formal specification of security model for the High Assurance Automated Guard, Technical Cooperation Arrangement No 2012:02 for NATO-NCI Agency Project SPW008418.
- Nov 2010-Nov 2011, Scientific leader of the Research Unit at Fondazione Bruno Kessler: Cartella Clinica del Cittadino (TreC)—Design and analysis of the authorization module.
- May 2008—March 2010, Scientific leader of the Research Unit of the Department of Computer Science at Univ. degli Studi di Verona (Verona, Italy): AVANTSSAR-Automated Validation of Trust and Security of Service-oriented Architectures, STREP project number 216471, funded by the EU in the context of the 7th Framework Programme, THEME ICT-1-1.4 - Secure, dependable and trusted Infrastructures.

- Sep 2005—Dec 2008, Principal Investigator of the Research Unit at INRIA-Nancy, France (my share: 35,000 Euros): ARROWS-Automated Reasoning on Pointer Manipulating Programs, Action Concertée Incitative “Sécurité et Informatique,” Ministère délégué à la Recherche et aux Nouvelles Technologies, France.
- Sep 2003—Jan 2007, Principal Investigator of the Research Unit at INRIA-Nancy, France (my share: 30,000 Euros): GECCOO-Generation of Certified Code for Object Oriented Applications, Action Concertée Incitative “Sécurité et Informatique,” Ministère délégué à la Recherche et aux Nouvelles Technologies, France.

## Visits

- Jun 2012, group of Prof. Denis Lugiez at École Centrale de Marseille (Marseille, France)
- Jul 2000-Jun 2001, group of Dr. C. Kirchner at LORIA (Nancy, France)
- Jan-Mar 2000, group of Prof. J. Siekmann at U. of Saarland (Saarbruecken, Germany)
- Jul-Aug 1998, group of Prof. L C Paulson of the Computer Laboratory, Cambridge University (Cambridge, England, UK)

## Languages

- English: fluent. French: fluent. Italian: mother tongue. Spanish: basic.

## Invited talks

- “Parameterized Verification goes Safety Analysis of Access Control Policies” at the First Workshop on Parameterized Verification—A Satellite Event of Concur 2014, Rome, Italy, September 6, 2014.
- “Design and Implementation of the NATO High Assurance Attribute-Based Access Control Guard” at the NATO Chief Information Officers’ Conference, NATO Headquarters, Brussels, Belgium, November 20, 2013.
- “Satisfiability Solving for Program Verification: towards the Efficient Combination of Automated Theorem Provers and Satisfiability Modulo Theory Tools”. at the IJCAR’06 Workshop DISPROVING: Non-Theorems, Non-Validity, Non-Provability, pages 49-58, Seattle, WA, USA, August 2006.

## Tutorials

- 23rd International Conference on Automated Deduction (CADE’11): Tutorial on “Model Checking Modulo Theories: Theory and Practice”
- International Conference on Theoretical Aspects of Computing (ICTAC’06): Tutorial on “Decision Procedures for the formal analysis of software”
- Software Engineering and Formal Methods (SEFM’05): Tutorial on “Building, Combining, and Integrating Decision Procedures for Software Verification”

### *Evaluation of research projects*

- Jun 2012-Dec 2012: Independent Expert appointed by the assessment panel of the Netherlands Organisation for Scientific Research (NWO) to evaluate grant proposals of the Free Competition program (supporting high-risk innovative and original research) in the field of Computer Science

## Publications

### Editorship

8. Silvio Ranise and Vipin Swarup, editors. *30th Annual IFIP WG 11.3 Conference, DBSec 2016, Trento, Italy, July 18-20, 2016. Proceedings*, volume 9766 of *Lecture Notes in Computer Science*. Springer, 2016.
7. Carsten Lutz and Silvio Ranise, editors. *Frontiers of Combining Systems - 10th International Symposium, FroCoS 2015, Wroclow, Poland, September 19-24, 2015. Proceedings*, volume 9322 of *Lecture Notes in Computer Science*. Springer, 2015.
6. Rafael Accorsi and Silvio Ranise, editors. *Security and Trust Management - 9th International Workshop, STM 2013, Egham, UK, September 12-13, 2013. Proceedings*, volume 8203 of *Lecture Notes in Computer Science*. Springer, 2013.
5. Silvio Ranise and Ullrich Hustadt, editors. Special Issue on First-Order Theorem Proving. *Ann. Math. Artif. Intell.*, 55(1-2):1-2, 2009.
4. Anna Bigatti and Silvio Ranise, editors. Selected papers from the 13th Symposium on Symbolic Computation and Mechanized Reasoning (Calculemus'06). *Electr. Notes Theor. Comput. Sci.*, 2006.
3. Wolfgang Ahrendt, Peter Baumgartner, Hans de Nivelle, Silvio Ranise, and Cesare Tinelli, editors. Selected Papers from the Workshops on Disproving (Disproving 2004) and the Second International Workshop on Pragmatics of Decision Procedures (PDPAR 2004). *Electr. Notes Theor. Comput. Sci.*, 125(3):1-2, 2005.
2. S. Ranise and C. Tinelli, editors. Pragmatics of Decision Procedures in Automated Reasoning (PDPAR'04), July 2004. Workshop affiliated to the 2nd International Joint Conference on Automated Reasoning (IJCAR'04).
1. S. Ranise and C. Tinelli, editors. Pragmatics of Decision Procedures in Automated Reasoning (PDPAR'03), July 2003. Workshop affiliated to the 19th Conference on Automated Deduction (CADE-19).

### Journals

28. Giada Sciarretta, Roberto Carbone, Silvio Ranise, Alessandro Armando. Anatomy of the Facebook solution for mobile single sign-on: Security assessment and improvements. *Computers & Security*, in press, 2017.
27. Daniel Ricardo Dos Santos, Silvio Ranise, Luca Compagna, Serena Elisa Ponta. Automatically finding execution scenarios to deploy security-sensitive workflows. *Journal of Computer Security*, 25(3): 255-282 (2017)
26. Fatih Turkmen, Jerry den Hartog, Silvio Ranise, Nicola Zannone. Formal analysis of XACML policies using SMT. *Computers & Security*, 66: 185-203 (2017)
25. Silvio Ranise, Anh Truong, and Riccardo Traverso. Parameterized model checking for security policy analysis. *International Journal on Software Tools for Technology Transfer (STTT)*, Special issue devoted to the First Workshop on Parameterized Verification, pages 1-15, 2016.
24. Francesco Alberti, Roberto Bruttomesso, Silvio Ghilardi, Silvio Ranise, and Natasha Sharygina. An extension of lazy abstraction with interpolation for programs with arrays. *Formal Methods in System Design*, 45(1):63-109, 2014.

23. Roberto Bruttomesso, Silvio Ghilardi, and Silvio Ranise. Quantifier-free interpolation in combinations of equality interpolating theories. *ACM Trans. Comput. Log.*, 15(1):5, 2014.
22. Silvio Ranise. Symbolic backward reachability with effectively propositional logic - applications to security policy analysis. *Formal Methods in System Design*, 42(1):24–45, 2013.
21. Alessandro Carioni, Silvio Ghilardi, and Silvio Ranise. Automated termination in model-checking modulo theories. *Int. J. Found. Comput. Sci.*, 24(2):211–232, 2013.
20. Roberto Bruttomesso, Silvio Ghilardi, and Silvio Ranise. Quantifier-free interpolation of a theory of arrays. *Logical Methods in Computer Science*, 8(2), 2012.
19. Alessandro Armando and Silvio Ranise. Scalable automated symbolic analysis of administrative role-based access control policies by SMT solving. *Journal of Computer Security*, 20(4):309–352, 2012.
18. Francesco Alberti, Silvio Ghilardi, Elena Pagani, Silvio Ranise, and Gian Paolo Rossi. Universal guards, relativization of quantifiers, and failure models in model checking modulo theories. *JSAT*, 8(1/2):29–61, 2012.
17. Silvio Ranise. On the verification of security-aware e-services. *J. Symb. Comput.*, 47(9):1066–1088, 2012.
16. Christopher Lynch, Silvio Ranise, Christophe Ringeissen, and Duc-Khanh Tran. Automatic decidability and combinability. *Inf. Comput.*, 209(7):1026–1047, 2011.
15. Michele Barletta, Alberto Calvi, Silvio Ranise, Luca Viganò, and Luca Zanetti. Workflow and access control reloaded: a declarative specification framework for the automated analysis of web services. *Scalable Computing: Practice and Experience*, 12(1), 2011.
14. Michele Barletta, Silvio Ranise, and Luca Viganò. A declarative two-level framework to specify and verify workflow and authorization policies in service-oriented architectures. *Service Oriented Computing and Applications*, 5(2):105–137, 2011.
13. Silvio Ghilardi and Silvio Ranise. Backward reachability of array-based systems by SMT solving: Termination and invariant synthesis. *Logical Methods in Computer Science*, 6(4), 2010.
12. Duc-Khanh Tran, Christophe Ringeissen, Silvio Ranise, and Hélène Kirchner. Combination of convex theories: Modularity, deduction completeness, and explanation. *J. Symb. Comput.*, 45(2):261–286, 2010.
11. David Déharbe and Silvio Ranise. Satisfiability solving for software verification. *STTT*, 11(3):255–260, 2009.
10. Alessandro Armando, Maria Paola Bonacina, Silvio Ranise, and Stephan Schulz. New results on rewrite-based satisfiability procedures. *ACM Trans. Comput. Log.*, 10(1), 2009.
9. David Déharbe, Silvio Ranise, and Jorgiano Vidal. A prototype implementation of a distributed satisfiability modulo theories solver in the toolbus framework. *J. Braz. Comp. Soc.*, 14(1):71–86, 2008.
8. Silvio Ghilardi, Enrica Nicolini, Silvio Ranise, and Daniele Zucchelli. Decision procedures for extensions of the theory of arrays. *Ann. Math. Artif. Intell.*, 50(3-4):231–254, 2007.
7. Bernhard Beckert, Tony Hoare, Reiner Hähnle, Douglas R. Smith, Cordell Green, Silvio Ranise, Cesare Tinelli, Thomas Ball, and Sriram K. Rajamani. Intelligent systems and formal methods in software engineering. *IEEE Intelligent Systems*, 21(6):71–81, 2006.

6. Marco Bozzano, Roberto Bruttomesso, Alessandro Cimatti, Tommi A. Junttila, Silvio Ranise, Peter van Rossum, and Roberto Sebastiani. Efficient theory combination via boolean search. *Inf. Comput.*, 204(10):1493–1525, 2006.
5. Jean-François Couchot, David Déharbe, Alain Giorgetti, and Silvio Ranise. Scalable automated proving and debugging of set-based specifications. *J. Braz. Comp. Soc.*, 9(2):17–36, 2004.
4. Alessandro Armando, Silvio Ranise, and Michaël Rusinowitch. A rewriting approach to satisfiability procedures. *Inf. Comput.*, 183(2):140–164, 2003.
3. Alessandro Armando and Silvio Ranise. Constraint contextual rewriting. *J. Symb. Comput.*, 36(1-2):193–216, 2003.
2. Alessandro Armando, Alessandro Coglio, Fausto Giunchiglia, and Silvio Ranise. The control layer in open mechanized reasoning systems: Annotations and tactics. *J. Symb. Comput.*, 32(4):305–332, 2001.
1. Alessandro Armando and Silvio Ranise. A practical extension mechanism for decision procedures: the case study of universal presburger arithmetic. *J. UCS*, 7(2):124–140, 2001.

### Electronic Journals

5. Francesco Alberti, Silvio Ghilardi, Elena Pagani, Silvio Ranise, and Gian Paolo Rossi. Automated support for the design and validation of fault tolerant parameterized systems: a case study. *ECE-ASST*, 35, 2010.
4. Silvio Ghilardi, Silvio Ranise, and Thomas Valsecchi. Light-weight smt-based model checking. *Electr. Notes Theor. Comput. Sci.*, 250(2):85–102, 2009.
3. David Déharbe, Silvio Ranise, and Jorgiano Vidal. Distributing the workload in a lazy theorem-prover. *Electr. Notes Theor. Comput. Sci.*, 184:21–37, 2007.
2. Jean-François Couchot, Frédéric Dadeau, David Déharbe, Alain Giorgetti, and Silvio Ranise. Proving and debugging set-based specifications. *Electr. Notes Theor. Comput. Sci.*, 95:189–208, 2004.
1. Silvio Ranise and David Déharbe. Applying light-weight theorem proving to debugging and verifying pointer programs. *Electr. Notes Theor. Comput. Sci.*, 86(1):105–119, 2003.

### Conferences and Workshops

77. Silvio Ranise and Hari Siswantoro. Automated Legal Compliance Checking by Security Policy Analysis. *Proc. of the 3rd International Workshop on TEchnical and LEgal aspects of data pRivacy and SEcurity*, TELERISE 2017. LNCS, To appear.
76. Daniel Ricardo dos Santos and Silvio Ranise. On Run-time Enforcement of Authorization Constraints in Security-Sensitive Business Processes. *Proc. of the 15th Int. Conf. on Software Engineering and Formal Methods*, SEFM 2017. LNCS, To appear.
75. Umberto Morelli and Silvio Ranise. Assisted Authoring, Analysis and Enforcement of Access Control Policies in the Cloud. *Proc. of the ICT Systems Security and Privacy Protection - 32nd IFIP TC 11 International Conference, SEC 2017, Rome, Italy, May 29-31, 2017, IFIP Advances in Information and Communication Technology 502*, Springer 2017: 296-309.

74. Luca Compagna, Daniel Ricardo Dos Santos, Serena Elisa Ponta, Silvio Ranise, Aegis: Automatic Enforcement of Security Policies in Workflow-driven Web Applications. *Proc. of the 7th ACM Conf. on Data and Application Security and Privacy, CODASPY 2017*, Scottsdale, AZ, USA, March 22-24, 2017. ACM ,321-328.
73. L. Compagna, D. R. Dos Santos, S. E. Ponta, and S. Ranise. Cerberus: Automated synthesis of monitors for security-sensitive business processes. In *Proceedings of the 22nd Int. Conf. on Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, April 2-8, Eindhoven, The Netherlands, 2016. To appear also in *Lecture Notes in Computer Science 9636*, Springer, 2016.
72. A. Armando, S. Ranise, R. Traverso, and K. Wrona. SMT-based Enforcement and Analysis of NATO Content-based Protection and Release Policies. In *Proceedings of the 2016 ACM International Workshop on Attribute Based Access Control*, New Orleans, Louisiana, USA. Pages 35–46, ACM, 2016.
71. Alessandro Armando, Gianluca Bocci, Gabriele Costa, Rocco Mammoliti, Alessio Merlo, Silvio Ranise, Riccardo Traverso, Andrea Valenza. Mobile App Security Assessment with the MAVerIC Dynamic Analysis Module. In *Proceedings of the 7th ACM CCS International Workshop on Managing Insider Security Threats, MIST 2015*, Denver, Colorado, USA, October 16, 2015. ACM 2015.
70. Alessandro Armando, Silvio Ranise, Riccardo Traverso, Konrad Wrona. Compiling NATO authorization policies for enforcement in the cloud and SDNs. *IEEE Conference on Communications and Network Security, CNS 2015*, Florence, Italy, September 28-30, 2015. IEEE 2015.
69. Worachet Uttha, Clara Bertolissi, Silvio Ranise. Modeling Authorization Policies for Web Services in Presence of Transitive Dependencies. *SECRYPT 2015 - Proceedings of the 12th International Conference on Security and Cryptography*, Colmar, Alsace, France, 20-22 July, 2015. SciTePress 2015.
68. Riccardo De Masellis, Chiara Ghidini, Silvio Ranise: A Declarative Framework for Specifying and Enforcing Purpose-Aware Policies. *Security and Trust Management - 11th International Workshop, STM 2015*, Vienna, Austria, September 21-22, 2015, *Proceedings. Lecture Notes in Computer Science 9331*, Springer 2015.
67. Daniel Ricardo Dos Santos, Silvio Ranise, Luca Compagna, Serena Elisa Ponta. Assisting the Deployment of Security-Sensitive Workflows by Finding Execution Scenarios. *Data and Applications Security and Privacy XXIX - 29th Annual IFIP WG 11.3 Working Conference, DBSec 2015*, Fairfax, VA, USA, July 13-15, 2015, *Proceedings. Lecture Notes in Computer Science 9149*, Springer 2015.
66. Silvio Ranise, Anh Tuan Truong, Luca Viganò. Automated analysis of RBAC policies with temporal constraints and static role hierarchies. *Proceedings of the 30th Annual ACM Symposium on Applied Computing (SAC)*, Salamanca, Spain, April 13-17, 2015. ACM 2015.
65. Clara Bertolissi, Daniel Ricardo Dos Santos, and Silvio Ranise. Automated synthesis of run-time monitors to enforce authorization policies in business processes. In Feng Bao, Steven Miller, Jianying Zhou, and Gail-Joon Ahn, editors, *Proceedings of the 10th ACM Symposium on Information, Computer and Communications Security, ASIA CCS '15*, Singapore, April 14-17, 2015, pages 297–308. ACM, 2015.
64. Fatih Turkmen, Jerry den Hartog, Silvio Ranise, and Nicola Zannone. Analysis of XACML policies with SMT. In Riccardo Focardi and Andrew C. Myers, editors, *Principles of Security and Trust - 4th International Conference, POST 2015, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2015, London, UK, April 11-18, 2015, Proceedings*, volume 9036 of *Lecture Notes in Computer Science*, pages 115–134. Springer, 2015.
63. Silvio Ranise and Anh Tuan Truong. Incremental analysis of evolving administrative role based access control policies. In Vijay Atluri and Günther Pernul, editors, *Data and Applications Security and Privacy XXVIII - 28th Annual IFIP WG 11.3 Working Conference, DBSec 2014*, Vienna, Austria, July

- 14-16, 2014. *Proceedings*, volume 8566 of *Lecture Notes in Computer Science*, pages 260–275. Springer, 2014.
62. Worachet Uttha, Clara Bertolissi, and Silvio Ranise. Towards a reference architecture for access control in distributed web applications. In Wouter Joosen, Fabio Martinelli, and Thomas Heyman, editors, *Proceedings of the 2014 ESSoS Doctoral Symposium co-located with the International Symposium on Engineering Secure Software and Systems (ESSoS 2014)*, Munich, Germany, February 26, 2014., volume 1298 of *CEUR Workshop Proceedings*. CEUR-WS.org, 2014.
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