GERARDO SCHNEIDER'S LIST OF PUBLICATIONS

Books

1. M. Roggenbach, A. Cerone, B. Schlingloff, G. Schneider, and S. A. Shaikh. Formal Methods for Software Engineering - Languages, Methods, Application Domains. Texts in Theoretical Computer Science. An EATCS Series. Springer, 2022.

Edited Books and Journals^{1,2}

- 1. Gilles Barthe, Alberto Pardo, and Gerardo Schneider, editors. Software Engineering and Formal Methods, volume 14 of Journal of Software and System Modeling (SoSyM). Springer, February 2015.
- Gilles Barthe, Alberto Pardo, and Gerardo Schneider, editors. Software Engineering and Formal Methods, volume 7041 of Lecture Notes in Computer Science. Springer, November 2011.
- 3. Antonio Brogi and Gerardo Schneider, editors. Special Section: Formal Languages and Analysis of Contract-Oriented Software (FLACOS'10), volume 81(2) of Journal of Logic and Algebraic Programming. Elsevier, February 2012.
- Einar B. Johnsen, Olaf Owe, and Gerardo Schneider, editors. Special Issue: The 19th Nordic Workshop on Programming Theory (NWPT 2007), volume 78(7) of Journal of Logic and Algebraic Programming. Elsevier, August/September 2009.
- 5. Olaf Owe and Gerardo Schneider, editors. Special Issue: Formal Languages and Analysis of Contract-Oriented Software (FLACOS'07), volume 78(5) of Journal of Logic and Algebraic Programming. Elsevier, May/June 2009.
- Gordon Pace and Gerardo Schneider, editors. Special Issue: Formal Languages and Analysis of Contract-Oriented Software, volume 80(3-5) of Journal of Logic and Algebraic Programming. Elsevier, April-July 2011.
- 7. Gordon Pace and Gerardo Schneider, editors. Special Issue: Formal Languages and Analysis of Contract-Oriented Software (FLACOS'08), volume 80(1) of Journal of Logic and Algebraic Programming. Elsevier, January 2011.

Journal Papers

- 1. Gerardo Schneider. Computing invariance kernels of polygonal hybrid systems. Nordic Journal of Computing, 11(2):194–210, 2004.
- Eugene Asarin, Gerardo Schneider, and Sergio Yovine. Algorithmic Analysis of Polygonal Hybrid Systems. Part I: Reachability. Theoretical Computer Science, 379(1-2):231–265, 2007.

¹ All the publications can be downloaded from my homepage: http://www.cse.chalmers.se/~gersch/.

² Till 2013 authors are listed alphabetically in almost all my publications, following the French tradition in formal methods, not reflecting the contribution of each author. Due to different publication policies by some of my co-authors the exception to the above are the following 3 papers: the 2013 IEEE TSE journal paper by G. Díaz et al., and the FLACOS'11 and IEEE SCC'10 papers by E. Martínez et al. From 2014, due to a change of publication policies, papers are not necessary in alphabetic order. A co-author contribution statement may be provided upon request.

- 3. Eugene Asarin, Gordon Pace, Gerardo Schneider, and Sergio Yovine. Algorithmic Analysis of Polygonal Hybrid Systems. Part II: Phase Portrait and Tools. *Theoretical Computer Science*, 390(1):1–26, January 2008.
- Eugene Asarin, Venkatesh Mysore, Amir Pnueli, and Gerardo Schneider. Low dimensional hybrid systems - decidable, undecidable, don't know. *Information* and Computation, 211:138–159, January 2012.
- Cristian Prisacariu and Gerardo Schneider. A dynamic deontic logic for complex contracts. Journal of Logic and Algebraic Programming, 81(4):458–490, May 2012.
- Krasimir Angelov, John J. Camilleri, and Gerardo Schneider. A framework for conflict analysis of normative texts written in controlled natural language. *Journal* of Logic and Algebraic Programming, 82(5-7):216–240, July-October 2013.
- Hallstein Hansen, Gerardo Schneider, and Martin Steffen. Reachability analysis
 of complex planar hybrid systems. Science of Computer Programming (SCP),
 78(12):2511–2536, 2013.
- 8. Gregorio Díaz, M. Emilia Cambronero, Enrique Martínez, and Gerardo Schneider. Specification and Verification of Normative texts using C-O Diagrams. *IEEE Transactions on Software Engineering*, 40(8):795–817, 2014.
- 9. Shaun Azzopardi, Gordon J. Pace, Fernando Schapachnik, and Gerardo Schneider. Contract Automata: An Operational View of Contracts Between Interactive Parties. *Artificial Intelligence and Law*, 24(3):203–243, September 2016.
- Wolfgang Ahrendt, Mauricio Chimento, Gordon Pace, and Gerardo Schneider. Verifying Data- and Control-Oriented Properties Combining Static and Runtime Verification: Theory and Tools. Formal Methods in System Design, 51(1):200–265, August 2017.
- 11. John J. Camilleri and Gerardo Schneider. Modelling and analysis of normative documents. *Journal of Logical and Algebraic Methods in Programming*, 91:33–59, October 2017.
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- 14. César Sánchez, Gerardo Schneider, Wolfgang Ahrendt, Ezio Bartocci, Domenico Bianculli, Christian Colombo, Yliés Falcone, Adrian Francalanza, Srdan Krstić, Dejan Nickovic, Gordon J. Pace, Jose Rufino, Julien Signoles, Dmitriy Traytel, and Alexander Weiss. A Survey of Challenges for Runtime Verification from Advanced Application Domains (Beyond Software). Formal Methods in System Design, 54(3):279–335, August 2019. Open source, freely available at https://rdcu.be/b0hjI.
- Hanaa Alshareef, Raúl Pardo, Pablo Picazo-Sanchez, and Gerardo Schneider. A collaborative access control framework for online social networks. *Journal of Logical* and Algebraic Methods in Programming, 114, May 2020.
- 16. Pablo Picazo-Sanchez, Juan Tapiador, and Gerardo Schneider. After you, please: Browser extensions order attacks and countermeasures. *International Journal of Information Security*, 19(6):623–638, 2020.
- 17. Viktor Elliot, Jonas Flodén, Conny Overland, Zeeshan Raza, Miroslaw Staron, Johan Woxenius, Abhinayan Basu Bal, Trisha Rajput, Gerardo Schneider, and

- Gunnar Stefansson. Ceos' understanding of blockchain technology and its adoption in export-oriented companies in west sweden: a survey. *Journal of Global Operations and Strategic Sourcing*, 17(4):661–684, 2021.
- Sandro Stucki, César Sánchez, Gerardo Schneider, and Borzoo Bonakdarpour. Gray-box monitoring of hyperproperties with an application to privacy. Formal Methods in System Design, 58(1-2):126-159, 2021.
- Hamed Arshad, Christian Johansen, Olaf Owe, Pablo Picazo-Sanchez, and Gerardo Schneider. Semantic attribute-based encryption: A framework for combining ABE schemes with semantic technologies. *Information Sciences*, 616:558–576, 2022.
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- Johanna Johansen, Tore Pedersen, Simone Fischer-Hübner, Christian Johansen, Gerardo Schneider, Arnold Roosendaal, Harald Zwingelberg, Anders Jakob Sivesind, and Josef Noll. A multidisciplinary definition of privacy labels. *Inf. Comput. Secur.*, 30(3):452–469, 2022.
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- Hamed Arshad, Christian Johansen, Pablo Picazo-Sanchez, and Gerardo Schneider. Attribute-based encryption with enforceable obligations. *Journal of Cryptographic Engineering*, 13(3):343–371, 2023.

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- 3. Eugene Asarin, Gerardo Schneider, and Sergio Yovine. On the decidability of the reachability problem for planar differential inclusions. In 4th International Workshop on Hybrid Systems: Computation and Control (HSCC'01), number 2034 in LNCS, pages 89–104, Rome, Italy, 2001. Springer-Verlag.
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- Gordon Pace and Gerardo Schneider. Model checking polygonal differential inclusions using invariance kernels. In 5th International Conference on Verification,
 Model Checking and Abstract Interpretation (VMCAI'04), number 2937 in LNCS,
 pages 110–121, Venice, Italy, December 2003. Springer Verlag.
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- 14. Gordon Pace and Gerardo Schneider. Static analysis for state-space reduction of polygonal hybrid systems. In 4th International Conference on Formal Modelling and Analysis of Timed Systems (FORMATS'06), volume 4202 of LNCS, pages 306–321, Paris, France, September 2006. Springer-Verlag.
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- Christian Colombo, Gordon J. Pace, and Gerardo Schneider. Dynamic event-based runtime monitoring of real-time and contextual properties. In 13th International Workshop on Formal Methods for Industrial Critical Systems (FMICS'08), volume 5596 of LNCS, pages 135–149, L'Aquila, Italy, September 2009. Springer-Verlag.
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- 35. Cristian Prisacariu and Gerardo Schneider. CL: An Action-based Logic for Reasoning about Contracts. In 16th Workshop on Logic, Language, Information and Computation (WOLLIC'09), volume 5514 of LNCS, pages 335–349, Tokyo, Japan, June 2009. Springer.
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- 41. Wolfgang Ahrendt, Gordon J. Pace, and Gerardo Schneider. A Unified Approach for Static and Runtime Verification: Framework and Applications. In 5th International Symposium On Leveraging Applications of Formal Methods, Verification and Validation (ISoLA'12) Part I, volume 7609 of LNCS, pages 312–326, Heraclion, Crete, 15-18 October 2012. Springer.
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- 44. Antonio Cerone, Markus Roggenbach, Holger Schlingloff, Gerardo Schneider, and Siraj Shaikh. Teaching formal methods for software engineering ten principles. In Fun with Formal Methods Workshop, July 2013.
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Tools

I have participated in the implementation of the following tools:

- SPeeDI: Together with Gordon Pace, I have implemented a verification tool for Polygonal Differential Inclusions (SPDI).
- SPeeDI+: Together with Gordon Pace, I have extended the tool SPeeDI for computing phase portrait objects of SPDIs. http://www.cs.um.edu.mt/speedi/

Besides, I have contributed to the conceptual definition and underlying theoretical results for the following tools:

- AnaCon: A framework for analysis normative texts written in controlled natural language. http://www.cse.chalmers.se/~gersch/anacon/.
- CLAN: A tool for automatic detection of conflicts in deontic contracts. Main developer: Stephen Fenech. http://www.cs.um.edu.mt/svrg/Tools/CLTool
- GSPeeDI: A verification tool for Generalized Polygonal Hybrid Systems (GSPDI). Main developer: Hallstein A. Hansen.
- LARVA: A runtime verification platform for runtime verification of critical (real-time) systems. Main developer: Christian Colombo. http://www.cs.um.edu.mt/svrg/Tools/LARVA/