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# September 2023

# **Publications**

## **Journal Publications**

- 1. M. Abadi and A. D. Gordon. A bisimulation method for cryptographic protocols. *Nordic Journal of Computing*, 5:267–303, 1998.
- R. L. Crole and A. D. Gordon. Relating operational and denotational semantics for input/output effects. *Mathematical Structures in Computer Science*, 9:125– 158, 1999.
- 3. M. Abadi and A. D. Gordon. A calculus for cryptographic protocols: The spi calculus. *Information and Computation*, 148:1–70, 1999. \*[5]
- 4. A. D. Gordon. Bisimilarity as a theory of functional programming. *Theoretical Computer Science*, 228:5–47, 1999.
- 5. A. D. Gordon, S. B. Lassen, and P. D. Hankin. Compilation and equivalence of imperative objects. *Journal of Functional Programming*, 9(4):373–426, 1999.
- 6. L. Cardelli and A. D. Gordon. Mobile ambients. *Theoretical Computer Science*, 240:177-213, 2000. \*[6]
- 7. L. Cardelli, G. Ghelli, and A. D. Gordon. Types for the ambient calculus. *Information and Computation*, 177:160–194, 2002.
- 8. A. D. Gordon and L. Cardelli. Equational properties of mobile ambients. *Mathematical Structures in Computer Science*, 12:1–38, 2002.
- 9. S. Dal Zilio and A. D. Gordon. Region analysis and a  $\pi$ -calculus with groups. *Journal of Functional Programming*, 12(3):229–292, 2002.
- 10. W. Charatonik, S. Dal Zilio, A. D. Gordon, S. Mukhopadhyay, and J.-M. Talbot. The complexity of model checking mobile ambients. In *Theoretical Computer Science*, 308:277-331, 2003.
- 11. A. D. Gordon and A. Jeffrey. Typing correspondence assertions for communication protocols. *Theoretical Computer Science*, 300:379–409, 2003.

- 12. A. D. Gordon and A. Jeffrey. Authenticity by typing for security protocols. *Journal of Computer Security*, 11(4):451–521, 2003.
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- 14. K. Bhargavan, C. Fournet, and A. D. Gordon. A semantics for web services authentication. *Theoretical Computer Science*, 340(1):102–153, 2005.
- 15. A. D. Gordon and R. Pucella. Validating a web service security abstraction by typing. *Formal Aspects of Computing*, 17:277–318, 2005.
- 16. L. Cardelli, G. Ghelli, and A. D. Gordon. Secrecy and group creation. *Information and Computation*, 196(2):127–155, 2005.
- 17. C. Calcagno, L. Cardelli, and A. D. Gordon. Deciding validity in a spatial logic for trees. *Journal of Functional Programming*, 15:543–572, 2005.
- 18. L. Cardelli and A. D. Gordon. Ambient logic. *Mathematical Structures in Computer Science*. To appear.
- 19. K. Bhargavan, R. Corin, C. Fournet, and A. D. Gordon. Secure sessions for Web services. *ACM Transactions on Information and System Security*, 10(2), 2007.
- C. Fournet, A. D. Gordon, and S. Maffeis. A type discipline for authorization policies. ACM Transactions on Programming Languages and Systems, 29(5), 2007.
- 21. K. Bhargavan, C. Fournet, A. D. Gordon. Verifying policy-based web services security. *ACM Transactions on Programming Languages and Systems* (*TOPLAS*), 30(6), 2008.
- 22. K. Bhargavan, C. Fournet, A.D. Gordon and S. Tse. Verified interoperable implementations of security protocols. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 31(1), 2008.
- 23. M. Becker, C. Fournet, and A. D. Gordon. SecPAL: Design and Semantics of a Decentralized Authorization Language. *Journal of Computer Security*, 18(4):597–643, 2010. \*[10]
- J. Bengtson, K. Bhargavan, C. Fournet, and S. Maffeis. Refinement types for secure implementations. ACM Transactions on Programming Languages and Systems (TOPLAS), 33(2):8, 2011.
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- 27. J. Borgström, A. D. Gordon, M. Greenberg, J. Margetson, J. Van Gael. Measure Transformer Semantics for Bayesian Machine Learning. *Logical Methods in Computer Science* 9(3), 2013.
- F. Dupressoir, A. D. Gordon, J. Jürjens, D. A. Naumann. Guiding a General-Purpose C Verifier to Prove Cryptographic Protocols. *Journal of Computer Security* 22(5):823–866, 2014.
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- 30. Sooraj Bhat, Johannes Borgström, Andrew D. Gordon, and Claudio V. Russo. Deriving probability density functions from probabilistic functional programs. *Logical Methods in Computer Science*, 13(2), 2017.
- 31. Matt McCutchen, Judith Borghouts, Andrew D. Gordon, Simon Peyton Jones, and Advait Sarkar. Elastic sheet-defined functions: Generalising spreadsheet functions to variable-size input arrays. *J. Funct. Program.*, 30:e26, 2020. \*[18]
- 32. Maria I. Gorinova, Andrew D. Gordon, Charles Sutton, and Matthijs Vákár. Conditional independence by typing. *ACM Trans. Program. Lang. Syst.*, 44(1):4:1–4:54, 2022.
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## **Refereed Conference and Workshop Publications**

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- 3. R. L. Crole and A. D. Gordon. Factoring an adequacy proof (preliminary report). In *Functional Programming, Glasgow 1993*, Workshops in Computing, pages 9–27. Springer-Verlag, 1994.
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- 5. R. L. Crole and A. D. Gordon. A sound metalogical semantics for input/output effects. In L. Pacholski and J. Tiuryn, editors, CSL'94 Computer Science Logic, Kazimierz, Poland, September 1994, volume 933 of Lecture Notes in Computer Science, pages 339–353. Springer-Verlag, 1995.
- 6. A. D. Gordon. A tutorial on co-induction and functional programming. In Functional Programming, Glasgow 1994, Workshops in Computing, pages 78-95. Springer-Verlag, 1995.
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- 9. A. D. Gordon and G. D. Rees. Bisimilarity for a first-order calculus of objects with subtyping. In 23rd ACM Symposium on Principles of Programming Languages (POPL'96), pages 386-395. ACM Press, 1996.
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- 13. M. Abadi and A. D. Gordon. Reasoning about cryptographic protocols in the spi calculus. In Concurrency Theory (CONCUR'97), Lecture Notes in Computer Science, pages 59-73. Springer-Verlag, August 1997.
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- 41. A. D. Gordon and A. Jeffrey. Secrecy despite compromise: Types, cryptography, and the pi-calculus. In *Concurrency Theory (CONCUR'05)*, volume 3653 of *Lecture Notes in Computer Science*, pages 186–201. Springer-Verlag, 2005.
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## **Patents**

- 1. Verifier to check intermediate language (2003) US Patent 6,560,774.
- Ambient calculus-based modal logics for mobile ambients (2004) US Patent 6,826,751.
- 3. Verifying intermediate language code (2005) US Patent 6,851,108.
- 4. Verifier to check intermediate language (2007) US Patent 7,171,655.
- 5. Reviewing the security of trusted software components (2008) US Patent 7,437,718.
- 6. Automatically generating security policies for web services (2009) US Patent 7,559,080.
- 7. Ambient calculus-based modal logics for mobile ambients (2010) US Patent 7,721,335.
- 8. Security authorization queries (2011) US Patent 8,060,931.
- 9. Security assertion revocation (2012) US Patent 8,095,969.
- 10. Controlling the delegation of rights (2012) US Patent 8,201,215.
- 11. Semantic subtyping for declarative data scripting language by calling a prover (2013) US Patent 8,413,119.
- 12. Security language translations with logic resolution (2014) US Patent 8,656,503.
- 13. Bidirectional type checking for declarative data scripting language (2014) US Patent 8,762,942.

- 14. Security language expressions for logic resolution (2015) US Patent 8,938,783.
- 15. Type system for declarative data scripting language (2015) US Patent 8,949,784.
- 16. Modeling a data generating process using dyadic Bayesian models (2015) US Patent 9,104,961.
- 17. Security language translations with logic resolution (2016) US Patent 9,282,121.
- 18. Database access (2016) US Patent 9,418,086.
- 19. Relational database management (2020) US Patent 10,685,062.
- 20. Creating and handling lambda functions in spreadsheet applications (2020) US Patent 10,726,201.
- 21. System and method for generation and execution of elastic sheet-defined functions and arrays (2021) US Patent 10,891,434.
- 22. Natively handling approximate values in spreadsheet applications (2021) US Patent 10,902,194.
- 23. Spreadsheet cell calculation view providing multiple-representation editing (2021) US Patent 10,936,804.
- 24. Inferring cues for use with digital assistant (2021) US Patent 10,997,512.
- 25. Checking and/or completion for data grids (2021) US Patent 11,093,702.
- 26. Spreadsheet with reuse functionality (2022) US Patent 11,461,544.
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