

Andrew D. Gordon

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Professor of Computer Security, University of Edinburgh
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November 2022

Degrees

- BSc (Computer Science, First Class Honours) 1987, University of Edinburgh.
- PhD (Computer Science) 1992, University of Cambridge.

Awards and Honours

- Distinguished Dissertation in Computer Science, jointly awarded by the British Computer Society and the Conference of Professors and Heads of Computing, 1993.
- Most Influential ETAPS 1998 Paper, *Mobile Ambients*, with L. Cardelli, awarded by the European Association for Programming Languages and Systems, 2007.
- Most Influential POPL 2000 Paper, *Anytime, Anywhere: Modal Logics for Mobile Ambients*, with L. Cardelli, awarded by ACM SIGPLAN, 2010.
- Best Paper ETAPS 2013, *Deriving Probability Density Functions from Probabilistic Functional Programs*, with S. Bhat, J. Borgström, and C. Russo, awarded by the European Association for Programming Languages and Systems, 2013.
- ACM Fellow 2020, for “For contributions to programming languages: their principles, logic, usability, and trustworthiness.” (ACM is the leading international association of computing professionals. ACM’s most prestigious member grade recognizes the top 1% of ACM members for their outstanding accomplishments in computing and information technology and/or outstanding service to ACM and the larger computing community.)

Professional Experience

- Research assistant, University of Edinburgh, summer 1987.
- Summer intern, Digital Systems Research Center, summer 1989.
- Research assistant, University of Cambridge, January 1991–October 1992.

- Visiting researcher and lecturer, Chalmers University, January–December 1993.
- Consultant, Lloyds Register, London, winter 1993.
- Research associate, University of Cambridge, January 1994–September 1994.
- Royal Society University Research Fellow, University of Cambridge, October 1994–October 1997.
- Consultant, Digital Systems Research Center, August 1996.
- Consultant, Digital Systems Research Center, March 1997.
- Researcher, Microsoft Research, November 1997–August 2002.
- Visiting Professor at the University of Provence, Marseille, April 1998.
- Senior Researcher, Microsoft Research, August 2002–August 2007.
- Visiting Professor at the University of Newcastle, March 2007–March 2010.
- Principal Researcher, Microsoft Research, since August 2007–December 2012.
- Professor of Computer Security, University of Edinburgh, since October 2010.
- Principal Researcher / Joint Research Area Leader, Microsoft Research, December 2012–November 2013.
- Principal Researcher / Research Area Leader, Microsoft Research, November 2013–December 2017.
- Senior Principal Research Manager, since January 2018.

Research Community

Professional Service

- Served on Haskell 1.3 and 1.4 committees, to standardise I/O, 1993–97.
- Member of Steering Committee of *ICFP* 1999–2002, and *ETAPS*, 2002–2004, and since 2008.
- Elected member of UK EPSRC Peer Review College, 2000–2013.
- Member of Advisory Board of EC *MyTHS* project, 2002–2005.
- Founding member of Editorial Board of *Logical Methods in Computer Science*, 2004–2015.
- Member of IFIP WG1.8 on *Concurrency Theory*, 2005–2011.
- Member of Scientific Advisory Board of the *Excellence Cluster on Multimodal Computing and Interaction (M2CI)*, Saarbruecken, 2008–2016.

- Member of Selection Committee for the *ACM SIGPLAN Outstanding Doctoral Dissertation Award 2008*.
- Member of *UK Computing Research Committee*, since June 2008.
- Founding member of *CryptoForma*, an EPSRC Network of Excellence on *Formal Methods and Cryptography: The Next Generation of Abstractions*, 2009–2016.
- Convenor of the Microsoft Research University of Edinburgh Joint Initiative in Informatics, 2011–2018.
- Panel member for EPSRC/GCHQ Cyber Research Institute (one of panel of five deciding on £3M), June 2012
- Member of Editorial Board, Springer Series on Information Security and Cryptography, 2012–2019.
- Member of Steering Committee for ACM SIGPLAN POPL conference, 2016–2019.
- Chair of Steering Committee of *Languages for Inference*, 2019–2022.
- Member of the Executive Committee of the *UK Computing Research Committee*, since September 2021.
- Co-chair *Computer Science Research Mentoring (UK-CSR-M)* scheme, co-sponsored by BCS Academy of Computing, BCS Higher Education Community of Practice, CPHC, and UKCRC, to launch in 2023.

Conference Organisation

- Co-organiser of workshop series *Higher Order Operational Techniques in Semantics (HOOTS)*, Cambridge 1995, Stanford 1997, Paris 1999, and Montreal 2000. (HOOTS book published by CUP in January 1998.)
- Convenor of *Workshop on Relations and Data Integrity Constraints and Languages (RADICAL 2010)*, Cambridge, May 2010.
- Organised *CryptoForma* workshop, March 2012, over 35 participants, from MSR (Fournet) and across UK.
- Organised Cybersecurity workshop, May 2012, with representatives of all Scottish universities.
- Co-organiser of workshop on *Algebraic Process Calculi: The First Twenty Five Years and Beyond*, Bertinoro, August 2005.
- Convenor of *Joint MSR–HP Workshop on “The Rise and Rise of the Declarative Datacentre”*, Cambridge, May 2008.

- Co-organiser of *0th CryptoForma Meeting*, Cambridge, January 2009.
- Local organiser of *Formal Methods and Tools for Security (FMATS)*, Microsoft Research Cambridge, 2013.
- Co-organiser of *Challenges and Trends in Probabilistic Programming* (Dagstuhl Seminar 15181), April 2015.
- Programme Committee Chair of POPL 2017: *44th ACM SIGPLAN Symposium on Principles of Programming Languages, Paris, January 2017*. (ACM is the leading learned society in computer science, and POPL is the premier venue for research on programming languages, a core foundation for computer science. To be PC chair is most prestigious service to the community.)
- Co-chair of *Probabilistic Programming Languages, Semantics, and Systems*, Los Angeles, January 2018.
- Co-organiser of session on *Future of Spreadsheets*, Microsoft Faculty Summit, Redmond, August 2019.

Invited Conference and Workshop Lectures

1. *MATHEFIT Workshop*, London, April 1998.
2. *Security Workshop*, Gothenburg, June 1999.
3. *Workshop on Mobile Calculi*, Chennai, December 1999.
4. *Mathematical Foundations of Program Semantics (MFPS XVII)*, Hoboken, April 2000.
5. *Mathematical Foundations of Computer Science (MFCS 2000)*, Bratislava, August 2000.
6. *Applied Semantics (APPSEM)*, Darmstadt, March 2001.
7. *Automated Verification Of Critical Systems (AVoCS'01)*, Oxford, April 2001.
8. *Static Analysis Symposium (SAS'01)*, Paris, July 2001.
9. *Principles and Practice of Declarative Programming (PPDP'01)*, Firenze, September 2001.
10. *Formal Methods for Industrial Critical Systems (FMICS'02)*, Malaga, June 2002.
11. *IFIP Theoretical Computer Science (TCS 2002)*, Montreal, August 2002.
12. *Concurrency Theory (CONCUR'02)*, Brno, August 2002.
13. *Workshop on Algebraic Development Techniques (WADT'02)*, Frauenchiemsee, September 2002.

14. *Formal Aspects of Security (FASec)*, Royal Holloway College, University of London, December 2002.
15. *Workshop on Issues in the Theory of Security (WITS)*, Pisa, 2003.
16. *Foundations of Global Computing (FGC'03)*, Eindhoven, June 2003.
17. *Grids and Applied Language Theory (GALT'03)*, Edinburgh, October 2003.
18. *Formal Methods for Components and Objects (FMCO'03)*, Leiden, November 2003.
19. *UK-UbiNet Workshop*, Cambridge, May 2004.
20. *British Colloquium for Theoretical Computer Science (BCTCS)*, Nottingham, April 2005.
21. *Static Analysis Symposium (SAS'05)*, London, September 2005.
22. *Current and Emerging Research Issues in Computer Security (CERICS)*, Royal Holloway, July 2006.
23. *Logic in Computer Science (LICS'06)*, Seattle, Aug 2006.
24. *Fun in the Afternoon*, Cambridge, May 2007.
25. Panel member, *Symposium on Computer Security Foundations (CSF'07)*, Venice, July 2007.
26. *Virtual Infrastructure Workshop*, part of LISA systems administration conference, San Diego, November 2008.
27. Invited speaker, *British Colloquium for Theoretical Computer Science (BCTCS)*, Warwick, April 2009.
28. Invited speaker, *Microsoft Research Summer School*, MSR Cambridge, Cambridge, July 2009.
29. Panel member, *Symposium on Computer Security Foundations (CSF'09)*, Long Island, July 2009.
30. Invited speaker, *Workshop on Interactive Theorem Proving*, University of Cambridge, August 2009.
31. Invited lecturer, *International Summer School on Advances in Programming Languages*, Heriot-Watt University, Edinburgh, September 2009.
32. Invited speaker, *Workshop on Theory Engineering*, University of Cambridge, February 2010.
33. Invited speaker, *International Symposium on Engineering Secure Software and Systems*, Pisa, February 2010.

34. Panel member, *4th International Workshop on Analysis of Security APIs (ASA-4)*, Edinburgh, July 2010.
35. Co-organiser of special session at ACM POPL 2011 in memory of Robin Milner.
36. Invited speaker at *Microsoft Software Summit*, Paris, April 2011.
37. Invited speaker on *Strategic Thinking for Researchers*, at *Microsoft Research Summer School*, MSR Cambridge, Cambridge, July 2012.
38. Unifying Speaker at ETAPS, Eindhoven, April 2016, on *Structure and Interpretation of Probabilistic Programs*. (The European Joint Conferences on Theory and Practice of Software (ETAPS) is the primary European forum for academic and industrial researchers working on topics relating to Software Science. The unifying speakers address a plenary session of all five constituent conferences of ETAPS.)
39. Keynote speaker on *End-User Probabilistic Programming* at the *16th International Conference on Quantitative Evaluation of SysTems (QEST 2019)*, Glasgow, September 2019.
40. Invited speaker on *Project Yellow: Bringing Data Types and Functional Programming to Excel* at *JPMorgan Chase*, March 2020.
41. Invited speaker on *Excel meets Lambda* at *Lambda Days 2021* virtual conference, February 2021.
42. Invited presenter at *Excel Virtually Global 2021*, October 2021.
43. Invited speaker on *Why Statistical Thinking is Transforming Programming Language Research* at the *Colloquium on Probabilistic Programming*, Collège de France, June 2022.

Programme Committee Member

- 1995: *Functional Programming and Computer Architecture (FPCA)*.
- 1998: *Principles of Programming Languages (POPL)*, *International Conference on Functional Programming (ICFP)*, *High Level Concurrent Languages (HLCL)*, *Mathematical Foundations of Programming Semantics (MFPS)*.
- 1999: *European Symposium on Programming (ESOP)*, *Concurrency Theory (CONCUR)*, *Higher Order Operational Techniques in Semantics (HOOTS)* (chair).
- 2000: *International Colloquium on Automata, Languages, and Programming (ICALP)*, *Principles and Practice of Declarative Programming (PPDP)*, *Higher Order Operational Techniques in Semantics (HOOTS)*.
- 2001: *MEchanized Reasoning about Languages with variable bINDing (MERLIN)*.

- 2002: *Formal Methods for Open Object-based Distributed Systems (FMOODS)*, *Principles and Practice of Declarative Programming (PPDP)*, *Foundations of Wide Area Network Computing (F-WAN)*.
- 2003: *Foundations of Software Science and Computation Structures (FOSSACS)* (chair), *Verification, Model Checking, Abstract Interpretation (VMCAI)*, *Foundations of Computer Science (FCS)*, *Foundations of Global Computing (FGC)*, *Expressiveness in Concurrency (EXPRESS)*, *Formal Methods for Open Object-based Distributed Systems (FMOODS)*.
- 2004: *Foundations of Software Science and Computation Structures (FOSSACS)*, *International Colloquium on Automata, Languages, and Programming (ICALP)*, *Trust Management, Computer Security Foundations Workshop (CSFW)*, *Web Services and Formal Methods (WS-FM)*, *Formal Methods in Security Engineering (FMSE)*. *Secure Web Services (SWS)*.
- 2005: *Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, *Typed Lambda Calculi and Applications (TLCA)*, *Formal Methods for Open Object-based Distributed Systems (FMOODS)*, *International Colloquium on Automata, Languages, and Programming (ICALP)*, *Security Issues in Coordination Models, Languages, and Systems (SecCo)*.
- 2006: *International Symposium on Secure Software Engineering (ISSSE)*, *Tools and Algorithms for the Construction and Analysis of Systems (TACAS)*, *Computer Security Foundations Workshop (CSFW)*, *International Colloquium on Automata, Languages, and Programming (ICALP)*, *Formal Methods in Security Engineering (FMSE)* (chair), *Privacy Security Trust (PST)*.
- 2007: *Principles of Programming Languages (POPL)*, *Foundations of Software Science and Computation Structures (FOSSACS)*, *International Conference on Service-Oriented Computing (ICSOC)*, *Formal Methods in Security Engineering (FMSE)*.
- 2008: *International Conference on Service-Oriented Computing (ICSOC)*.
- 2009: *Practical Aspects of Declarative Languages (PADL)*, *Security and Privacy, Symposium on Computer Security Foundations (CSF)*, *Uk eScience All Hands Meeting (AHM)*, *ML Workshop*, *International Symposium on Fundamentals of Computation Theory (FCT)*.
- 2010: *European Symposium on Programming (ESOP 2010)* (chair), *Symposium on Computer Security Foundations (CSF 2010)*, *First CryptoForma Workshop, Programming Languages and Analysis for Security (PLAS 2010)*.
- 2012: *Principles of Security and Trust (POST)*, *Computer Aided Verification (CAV)*, *Computer and Communications Security (CCS)*.
- 2013: *Principles of Programming Languages (POPL)*, *Principles of Security and Trust (POST)*.

- 2017: *Principles of Programming Languages (POPL)*.
- 2020: *Wikidata Workshop 2020*.
- 2021: *Wikidata Workshop 2021, International Conference on Functional Programming (ICFP 2021)*.
- 2022: *Wikidata Workshop 2022, Object-Oriented Programming, Systems, Languages & Applications 2023 (OOPSLA 2023)*.

Research Grant

- Principal Investigator on EPSRC Project *An Operational Theory of Objects*, with A. Pitts and Harlequin Ltd, February 1997 to January 2000.
- Co Investigator on EPSRC Project *App Guarden: Resilient Application Stores*, October 2013 to September 2016.

Teaching and Examining

Undergraduate Teaching

- Director of Studies in Computer Science, Newnham College, Cambridge, 1994–1996.
- Undergraduate course on *Functional Programming*, University of Cambridge, spring 1995.

Graduate Courses

- *Theorem Proving Using HOL*, Chalmers University, spring 1993.
- *Bisimilarity as a Theory of Functional Programming*, Glasgow University, August 1994.
- *Bisimilarity as a Theory of Functional Programming*, University of Aarhus, March 1995.
- *Operational Methods*, University of Cambridge, winter 1995.
- *Nominal Calculi for Security and Mobility*, First International School on Foundations of Security Analysis and Design (FOSAD), Bertinoro, September 2000.
- *Security*, International School on Formal Methods for the Design of Computer, Communication and Software Systems: Process Algebras, Bertinoro, July 2001.
- *A Calculus for Cryptographic Protocols*, University of Cambridge, winter 2001.
- *A Calculus for Cryptographic Protocols*, Summer School on Foundations of Internet Security, Duszyniki Zdrój, June 2002.

- *Sécurité Logicielle* (Software Security) (with C. Fournet), L'École jeunes chercheurs en programmation, Aussois, June 2003.
- *Secure Global Computing with XML Web Services: Theory and Practice*, EEF Global Computing Summer School, University of Edinburgh, July 2003.
- *Web Services and Security*, Fourth International School on Foundations of Security Analysis and Design (FOSAD), Bertinoro, September 2004.
- *Protecting Alice from Malice*, University of Cambridge, spring 2006.
- *Protecting Alice from Malice*, NATO Summer School Marktoberdorf, July 2006.
- *Declarative Datacentres*, GLOBAN 2008 Summer School (Global Computing Approach to Analysis of Systems), Warsaw, September 2008.
- *Principles and Applications of Refinement Types*, Winter School on Hot Topics in Distributed Computing, La Plagne, March 2009.
- *Principles and Applications of Refinement Types*, NATO Summer School Marktoberdorf, July 2009.
- *Cryptographic and Probabilistic Programming*, Fifteenth International School on Foundations of Security Analysis and Design (FOSAD), Bertinoro, September 2015.
- *Empowering Spreadsheet Users with Probabilistic Programming*, First School on Foundations of Programming and Software Systems: Probabilistic programming (ProbProgSchool 2017), Minho, June 2017.
- *Empowering Spreadsheet Users with Probabilistic Programming*, Oregon Programming Languages Summer School, Eugene, Oregon, June 2019.

External Examiner

- M. Larsson, Licentiate, University of Linköping, August 1993.
- J. Ross, PhD, University of Cambridge, August 1997.
- M. Norrish, PhD, University of Cambridge, November 1998.
- C. Taylor, PhD, University of Nottingham, October 1998.
- J. Kleist, PhD, University of Aalborg, March 2000.
- A. Unyapoth, PhD, University of Cambridge, April 2001.
- M. Loretto, PhD, University of Florence, January 2002.
- S. Crafa, PhD, University of Venice, December 2002.
- M. Grazia Vigliotti, PhD, Imperial College, June 2004.

- M. Becker, PhD, University of Cambridge, September 2005.
- M. Maffei, PhD, University of Venice, January 2006.
- A. Phillips, PhD, Imperial College, January 2006.
- N. Broberg, Licentiate, Chalmers University, September 2006.
- S. Tse, PhD, University of Pennsylvania, February 2007.
- J. Borgström, PhD, EPFL, January 2008.
- P. Cerny, PhD, University of Pennsylvania, May 2009.
- E. Cooper, PhD, University of Edinburgh, September 2009.
- A. Pironti, PhD, University of Turin, February 2010.
- J. Jakubuv, PhD, Heriot-Watt, 2010.
- L. Hu, PhD, University of Nottingham, February 2011.
- B. Smyth, PhD, University of Birmingham, March 2011.
- Catalin Hritcu, PhD, Saarland University, January 2012.
- Thomas Given-Wilson, PhD, Sydney University of Technology, 2012.
- Friedrich Gretz, PhD, MacQuarie University, 2015.
- Patrick Koch, PhD, University of Klagenfurt, December 2019.

PhD Students

- PhD graduate, P. Hankin, *A Study of Objects*, 2001.
- PhD candidate, I. Baltopoulos, *Enriching a Multi-Tier Programming Language: Security, Concurrency, and Typing*, 2005–2009.
- PhD graduate François Dupressoir, *Proving Cryptographic C Programs Secure with General-Purpose Verification Tools*, 2013.
- PhD graduate Mihhail Aizatulin, *Verifying cryptographic security implementations in C using automated model extraction*, 2015.
- PhD graduate Marcin Szymczak, *Programming Language Semantics as a Foundation for Bayesian Inference*, 2017.
- PhD graduate Maria Gorinova, *Program Analysis of Probabilistic Programs*, 2021.
- PhD candidate Eirene Vlassi-Pandi, *Natural Type Inference*, to submit December 2022.

Publications

Journal Publications

1. M. Abadi and A. D. Gordon. A bisimulation method for cryptographic protocols. *Nordic Journal of Computing*, 5:267–303, 1998.
2. 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.
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.
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 π -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.
13. A. D. Gordon and A. Jeffrey. Types and effects for asymmetric cryptographic protocols. *Journal of Computer Security*, 12(3/4):435–484, 2003.
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.
20. C. Fournet, A. D. Gordon, and S. Maffei. 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.
24. J. Bengtson, K. Bhargavan, C. Fournet, and S. Maffei. Refinement types for secure implementations. *ACM Transactions on Programming Languages and Systems (TOPLAS)*, 33(2):8, 2011.
25. J. Borgström, A. D. Gordon, R. Pucella. Roles, stacks, histories: A triple for Hoare. *Journal of Functional Programming (JFP)*, 21(2):159–207, 2011.
26. G. M. Bierman, A. D. Gordon, C. Hrițcu, David E. Langworthy. Semantic subtyping with an SMT solver. *Journal of Functional Programming (JFP)* 22(1):31–105, 2012.
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.
28. 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.
29. V. Vaglica, M. Sajeve, H. N. McGough, D. Hutchison, C. Russo, A. D. Gordon, A. V. Ramarosandratana, W. Stuppy, M. J. Smith. Monitoring internet trade to inform species conservation actions. *Endangered Species Research* 32:223–235, 2017.

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.
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.
33. Shuang Chen, Alperen Karaoglu, Carina Negreanu, Tingting Ma, Jin-Ge Yao, Jack Williams, Feng Jiang, Andy Gordon, and Chin-Yew Lin. LinkingPark: An automatic semantic table interpretation system. *J. Web Semant.*, 74:100733, 2022.

Refereed Conference and Workshop Publications

1. A. D. Gordon. The formal definition of a synchronous hardware-description language in higher order logic. In *International Conference on Computer Design, Cambridge, Massachusetts, October 11–14, 1992*, pages 531–534. IEEE Computer Society Press, 1992.
2. A. D. Gordon. An operational semantics for I/O in a lazy functional language. In *FPCA'93: Conference on Functional Programming Languages and Computer Architecture, Copenhagen*, pages 136–145. ACM Press, 1993.
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.
4. A. D. Gordon. A mechanisation of name-carrying syntax up to alpha-conversion. In J. J. Joyce and C.-J. H. Seger, editors, *Higher Order Logic Theorem Proving and its Applications. Proceedings, 1993*, number 780 in Lecture Notes in Computer Science, pages 414–426. Springer-Verlag, 1994.
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.
7. A. D. Gordon. Bisimilarity as a theory of functional programming. In *Eleventh Annual Conference on Mathematical Foundations of Programming Semantics*, volume 1 of *Electronic Notes in Theoretical Computer Science*. Elsevier Science Publishers B.V., 1995.

8. A. D. Gordon and K. Hammond. Monadic I/O in Haskell 1.3. In Paul Hudak, editor, *Proceedings of the Haskell Workshop, June 25, 1995, La Jolla, California*, pages 50–68, 1995. Available as Yale University Research Report YALEU/DCS/RR-1075.
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.
10. S. L. Peyton Jones, A. D. Gordon, and S. Finne. Concurrent Haskell. In *23rd ACM Symposium on Principles of Programming Languages (POPL'96)*, pages 295–308. ACM Press, 1996.
11. A. D. Gordon and T. Melham. Five axioms of alpha-conversion. In *Theorem Proving in Higher Order Logics: 9th International Conference, TPHOLs'96*, volume 1125 of *Lecture Notes in Computer Science*, pages 173–191. Springer-Verlag, 1996.
12. M. Abadi and A. D. Gordon. A calculus for cryptographic protocols: The spi calculus. In *4th ACM Conference on Computer and Communications Security (CCS'97)*, pages 36–47. ACM Press, April 1997.
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.
14. A. D. Gordon, S. B. Lassen, and P. D. Hankin. Compilation and equivalence of imperative objects. In *Foundations of Software Technology and Theoretical Computer Science (FST&TCS'97)*, volume 1346 of *Lecture Notes in Computer Science*, pages 74–87. Springer-Verlag, 1997.
15. A. D. Gordon. Operational equivalences for untyped and polymorphic object calculi. In A. D. Gordon and A. M. Pitts, editors, *Higher Order Operational Techniques in Semantics*, Publications of the Newton Institute, pages 9–54. Cambridge University Press, 1998.
16. M. Abadi and A. D. Gordon. A bisimulation method for cryptographic protocols. In *European Symposium on Programming (ESOP'98)*, volume 1381 of *Lecture Notes in Computer Science*, pages 12–26. Springer-Verlag, 1998.
17. L. Cardelli and A. D. Gordon. Mobile ambients. In *Foundations of Software Science and Computation Structures (FOSSACS'98)*, volume 1378 of *Lecture Notes in Computer Science*, pages 140–155. Springer-Verlag, 1998.
18. A. D. Gordon and P. D. Hankin. A concurrent object calculus: reduction and typing. In *3rd International Workshop on High-Level Concurrent Languages (HLCL'98)*, volume 16 of *Electronic Notes in Theoretical Computer Science*. Elsevier, 1998.

19. L. Cardelli and A. D. Gordon. Types for mobile ambients. In *26th ACM Symposium on Principles of Programming Languages (POPL'99)*, pages 79–92. ACM Press, 1999.
20. L. Cardelli, G. Ghelli, and A. D. Gordon. Mobility types for mobile ambients. In *International Conference on Automata, Languages, and Programming (ICALP'99)*, volume 1644 of *Lecture Notes in Computer Science*, pages 230–239. Springer-Verlag, 1999.
21. A. D. Gordon and L. Cardelli. Equational properties of mobile ambients. In *Foundations of Software Science and Computation Structures*, Lecture Notes in Computer Science, pages 212–226. Springer-Verlag, 1999.
22. L. Cardelli and A. D. Gordon. Anytime, anywhere: Modal logics for mobile ambients. In *27th ACM Symposium on Principles of Programming Languages (POPL'00)*, pages 365–377. ACM Press, 2000.
23. L. Cardelli, G. Ghelli, and A. D. Gordon. Ambient groups and mobility types. In *Proceedings TCS2000*, volume 1872 of *Lecture Notes in Computer Science*, pages 333–347. Springer-Verlag, 2000.
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Unrefereed Workshop Publications

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Books and Collections

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Technical Reports

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Dissertation

1. A. D. Gordon. *Functional Programming and Input/Output*. PhD Dissertation, Cambridge University, 1992.