

# List of Publications

Samson Abramsky

## 1 Books edited

1. *Category Theory and Computer Programming* (joint editor with D. Pitt, A. Poigné and D. Rydeheard), Springer 1986.
2. *Abstract Interpretation for Declarative Languages*, (joint editor with Chris Hankin), Ellis Horwood, 1987.
3. *Proceedings of TAPSOFT 91*, (joint editor with T. S. E. Maibaum), Springer Lecture Notes in Computer Science vols. 493–494, 1991.
4. *The Handbook of Logic in Computer Science* (joint editor with D. Gabbay and T. S. E. Maibaum), published by Oxford University Press. Volumes 1 and 2—*Background: Mathematical Structures* and *Background: Computational Structures*—published in 1992. Volumes 3 and 4—*Semantic Structures* and *Semantic Modelling*—published in 1995. Volume 5—*Logic and Algebraic Methods*—published in 2000.

## 2 Refereed Articles

### 1982

1. S. Abramsky and S. Cook, “Pascal-m in Office Information Systems”, in *Office Information Systems*, N. Naffah, ed. (North Holland) 1982.

### 1983

2. S. Abramsky and R. Bornat, “Pascal-m: a language for the design of loosely coupled distributed systems”, in *Distributed Computing Systems: Synchronization, Control and Coordination*, Y. Paker and J.-P. Verjus, eds. (Academic Press) 1983, 163–189.
3. S. Abramsky, “Semantic Foundations for Applicative Multiprogramming”, in *Automata, Languages and Programming*, J. Diaz ed. (Springer-Verlag) 1983, 1–14.

4. S. Abramsky, “Experiments, Powerdomains and Fully Abstract Models for Applicative Multiprogramming”, in *Foundations of Computation Theory*, M. Karpinski ed. (Springer-Verlag) 1983, 1–13.

**1984**

5. S. Abramsky, “Reasoning about concurrent systems: a functional approach”, in *Distributed Systems*, F. Chambers, D. Duce and G. Jones, eds. (Academic Press) 1984, 307–319.

**1985**

6. S. Abramsky and R. Sykes, “SECD-M: a virtual machine for applicative multiprogramming”, in *Functional Languages and Computer Architecture*, J.-P. Jouannaud ed. (Springer-Verlag) 1985, 81–98.

**1986**

7. G. Burn, C. Hankin and S. Abramsky, “Strictness Analysis for Higher Order Functions”, *Science of Computer Programming* 7, (1986), 249–278.
8. S. Abramsky, “Strictness Analysis and Polymorphic Invariance”, in *Programs as Data Objects*, H. Ganzinger and N. Jones, eds. (Springer-Verlag) 1986, 1–23.
9. G. Burn, C. Hankin and S. Abramsky, “The Theory of Strictness Analysis for Higher Order Functions”, in *Programs as Data Objects*, H. Ganzinger and N. Jones, eds. (Springer-Verlag) 1986, 42–62.

**1987**

10. S. Abramsky and C. Hankin, “Introduction to Abstract Interpretation”, Ch. 1 in *Abstract Interpretation for Declarative Languages*, S. Abramsky and C. Hankin, eds. (Ellis Horwood) 1987, 9–31.
11. S. Abramsky, “Observation Equivalence as a Testing Equivalence”, *J. Theoretical Computer Science* 53, (1987), 225–241.
12. S. Abramsky, “Domain Theory in Logical Form”, in *Symposium on Logic in Computer Science*, (Computer Society Press of the IEEE) 1987, 47–53.

**1988**

13. D. Fuller and S. Abramsky, “Partial evaluation and MIX compilation in PROLOG”, *New Generation Computing* 6, (1988), 119–143.

**1989**

14. S. Abramsky, “Observational Logic and Process Semantics (Abstract)”, in *Logic at Botik 89*, A. Meyer and M. Taitlin, eds. (Springer-Verlag) 1989.

**1990**

15. S. Abramsky, “The Lazy  $\lambda$ -Calculus”, in *Research Topics in Functional Programming*, D. Turner, ed. (Addison Wesley) 1990, 65–117.
16. S. Abramsky, “Abstract Interpretation, Logical Relations and Kan Extensions”, *J. Logic and Computation*, 1(1) (1990), 5–41.
17. S. Abramsky, “A Generalized Kahn Principle for Abstract Asynchronous Networks”, in *Symposium on Mathematical Foundations of Programming Language Semantics*, M. Mislove, ed. (Springer-Verlag) 1990, 1–21.

**1991**

18. S. Abramsky, “Domain Theory in Logical Form”, *Annals of Pure and Applied Logic* 51, (1991), 1–77.
19. S. Abramsky, “A Domain Equation for Bisimulation”, *J. Information and Computation*, 92(2) (1991), 161–218.
20. S. Abramsky and T. Jensen, “A Relational Approach to Strictness Analysis for Higher-Order Polymorphic Functions”, in *ACM Symposium on Principles of Programming Languages*, (ACM Press) 1991, 49–55.

**1992**

21. S. Abramsky and R. Jagadeesan, “New Foundations for the Geometry of Interaction”, in *Symposium on Logic in Computer Science*, (Computer Society Press of the IEEE) 1992, 211–222.
22. S. Abramsky and R. Jagadeesan, “Games and Full Completeness for Multiplicative Linear Logic”, in *Foundations of Software Technology and Theoretical Computer Science*, R. Shyamsundar, ed. (Springer-Verlag) 1992, 291–301.

**1993**

23. S. Abramsky and C.-H. L. Ong, “Full Abstraction in the Lazy  $\lambda$ -calculus”, *Information and Computation*, 105(2) (1993), 159–268.

24. S. Abramsky and S. J. Vickers, “Quantales, Observational Logic and Process Semantics”, *Mathematical Structures in Computer Science*, (1993), vol. 3, 161–227.
25. S. Abramsky, “Computational Interpretations of Linear logic”, *J. Theoretical Computer Science*, 111 (1993), 3–57.
26. A. Finkelstein, J. Kramer, S. Abramsky, K. Broda, S. Drossopoulou and S. Eisenbach, “An Integrated Engineering Study Scheme in Computing”, *Computer Journal*, 36(4), (1993), 320–334.
27. I. Mackie, L. Roman and S. Abramsky, “An Internal Language for Autonomous Categories”, *Journal of Applied Categorical Structures*, vol. 1, (1993), 311–343.
28. S. Abramsky, “Interaction Categories (Extended Abstract)”, in *Theory and Formal Methods 1993*, G. L. Burn, S. J. Gay and M. D. Ryan, ed. (Springer-Verlag) 1993, 57–69.

#### 1994

29. S. Abramsky, “Interaction Categories and Communicating Sequential Processes”, in *A Classical Mind: Essays in honour of C. A. R. Hoare*, A. W. Roscoe, ed. (Prentice Hall International) 1994, 1–16.
30. S. Abramsky and A. Jung, “Domain Theory”, in *Handbook of Logic in Computer Science*, S. Abramsky, D. Gabbay and T. S. E. Maibaum, eds., (Oxford University Press), 1994, 1–168.
31. S. Abramsky and R. Jagadeesan, “New Foundations for the Geometry of Interaction”, *Information and Computation*, 111(1), (1994), 53–119.
32. S. Abramsky and R. Jagadeesan, “Games and Full Completeness for Multiplicative Linear Logic”, *Journal of Symbolic Logic*, (1994), vol. 59, no. 2, 543–574.
33. S. Abramsky, “Proofs as Processes”, *J. Theoretical Computer Science* vol. 135 (1994), 5–9.
34. S. Abramsky, R. Jagadeesan and P. Malacaria, “Full Abstraction for PCF (Extended Abstract)”, in *Theoretical Aspects of Computer Software*, M. Hagiya and J. C. Mitchell, eds., (Springer-Verlag) 1994, 1–15.

#### 1995

35. S. Abramsky and G. McCusker, “Games and Full Abstraction for the Lazy  $\lambda$ -calculus”, in *Proceedings of the Tenth Annual Symposium on Logic in Computer Science*, D. Kozen, ed. (IEEE Computer Society Press), 1995, 234–243.

36. S. Abramsky and G. McCusker, “Games for recursive types”, in *Proceedings of the 1994 Workshop on Theory and Formal Methods*, C. L. Hankin, ed. (Imperial College Press), 1995, 1–20.

**1996**

37. S. Abramsky, S. Gay and R. Nagarajan, “Interaction Categories and the Foundations of Typed Concurrent Programming”, in *Proceedings of the 1994 Marktoberdorf Summer School on Deductive Program Design*, M. Broy, ed. (Springer-Verlag) 1996, 35–113.
38. S. Abramsky, S. Gay and R. Nagarajan, “Specification Structures and Propositions-as-Types for Concurrency”, in *Logics for Concurrency: Structure vs. Automata—Proceedings of the VIIIth Banff Higher Order Workshop*, G. Birtwistle and F. Moller, eds. (Springer-Verlag) 1996, 5–40.
39. S. Abramsky, “Retracing some paths in process algebra”, in *CONCUR '96: Concurrency Theory, 7th International Conference*, U. Montanari and V. Sassone, eds. (Springer-Verlag) 1996, 1–17.

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40. S. Abramsky, “Semantics of Interaction: an introduction to Game Semantics”, in *Proceedings of the 1996 CLiCS Summer School, Isaac Newton Institute*, P. Dybjer and A. Pitts, eds. (Cambridge University Press) 1997, 1–31.
41. S. Abramsky and G. McCusker, “Linearity, Sharing and State: a fully abstract game semantics for Idealized Algol”, in *Algol-like Languages*, P. O’Hearn and R. D. Tennent, eds. (Birkhauser) 1997, 317–348.
42. S. Abramsky and D. Pavlovic, “Specifying Processes”, in *Proceedings of the International Symposium on Category Theory In Computer Science*, E. Moggi and G. Rosolini, eds., Springer Lecture Notes in Computer Science Vol. 1290, (Springer-Verlag), 1997, 147–158.
43. S. Abramsky, “Game Semantics for Programming Languages”, in *22nd International Symposium on Mathematical Foundations of Computer Science*, I. Privara and P. Ruzicka, eds., Springer Lecture Notes in Computer Science Vol. 1295, (Springer-Verlag), 1997, 3–4.
44. S. Abramsky and S. Gay and R. Nagarajan, “A Type-theoretic Approach to Deadlock-freedom of Asynchronous Systems”, in *Theoretical Aspects of Computer Software*, M. Abadi and T. Ito, eds., Springer Lecture Notes in Computer Science Vol. 1281, (Springer-Verlag), 1997, 295–320.

45. S. Abramsky, “Games in the Semantics of Programming Languages”, in *Proceedings of the 11th Amsterdam Colloquium*, P. Dekker, M. Stokhof and Y. Venema, eds., (ILLC, Dept. of Philosophy, University of Amsterdam), 1997, 1–6.

**1998**

46. S. Abramsky and G. McCusker, “Call-by-value games”, in *Proceedings of the Eleventh International Workshop on Computer Science Logic*, M. Nielsen and W. Thomas, eds., Springer Lecture Notes in Computer Science Vol. 1414, (Springer-Verlag), 1998, 1–17.
47. S. Abramsky and K. Honda and G. McCusker, “A fully abstract game semantics for general references”, in *Proceedings of the Thirteenth International Symposium on Logic in Computer Science*, (Computer Society Press of the IEEE) 1998, 334–344.

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48. S. Abramsky, “Axioms for Definability and Full Completeness”, in *Essays in Honour of Robin Milner*, G. Plotkin, M. Tofte and C. Stirling, eds., (MIT Press) 1999, 55–75.
49. S. Abramsky and G. McCusker, “Game Semantics”, in *Computational Logic: Proceedings of the 1997 Marktoberdorf Summer School*, H. Schwichtenberg and U. Berger, eds. (Springer-Verlag) 1999, 1–56.
50. S. Abramsky, R. Blute and P. Panangaden, “Nuclear and trace ideals in tensored  $*$ -categories”, *J. Pure and Applied Algebra* vol. 143 (1999), 3–47.
51. S. Abramsky, S. J. Gay and R. Nagarajan, “A Specification Structure for Deadlock-freedom of Synchronous Processes”, *Theoretical Computer Science*, vol. 222 (1999), 1–53.
52. S. Abramsky and G. McCusker, “Full Abstraction for Idealized Algol with passive expressions”, *Theoretical Computer Science* vol. 227 (1999), 3–42.
53. S. Abramsky, R. Blute and P. Panangaden, “Nuclear Ideals in Tensored  $*$ -categories”, *J. Pure and Applied Algebra* vol. 143 (1999), 3–47.
54. S. Abramsky and P.-A. Mellès, “Concurrent Games and Full Completeness”, in *Proceedings of the Fourteenth International Symposium on Logic in Computer Science*, (Computer Society Press of the IEEE) 1999, 431–442.

## 2000

55. S. Abramsky, “Process Realizability”, in *Foundations of Secure Computation: Proceedings of the 1999 Marktoberdorf Summer School*, F. L. Bauer and R. Steinbrüggen, eds. (IOS Press) 2000, 167–180.
56. S. Abramsky, “Concurrent Interaction Games”, in *Millennial Perspectives in Computer Science*, J. Davies, A. W. Roscoe and J. Woodcock, eds. (Palgrave) 2000, 1–12.
57. S. Abramsky, R. Jagadeesan and P. Malacaria, “Full Abstraction for PCF”, *Information and Computation* vol. 163 (2000), 409–470.
58. S. Abramsky and M. Lenisa, “A Fully Complete PER Model for ML Polymorphic Types”, in *Proceedings of the Fourteenth International Workshop on Computer Science Logic*, P. Clote and H. Schwichtenberg, eds., Springer Lecture Notes in Computer Science Vol. 1862, (Springer-Verlag) 2000, 140–155.
59. S. Abramsky and M. Lenisa, “Axiomatizing Fully Complete Models for ML Polymorphic Types”, in *Proceedings of the International Symposium on Mathematical Foundations of Computer Science*, M. Nielsen and B. Rovan, eds., Springer Lecture Notes in Computer Science Vol. 1893, (Springer-Verlag) 2000, 141–151.

## 2001

60. B. Thomsen and S. Abramsky, “A fully abstract denotational semantics for the calculus of higher-order communicating systems”, *Theoretical Computer Science* vol. 254 (2001) 557–589.
61. S. Abramsky and M. Lenisa, Fully Complete Minimal PER Models for the Simply Typed  $\lambda$ -calculus, *CSL 2001 Conference Proceedings*, Springer LNCS Vol. 2142, 2001, 442–457.
62. S. Abramsky, A Structural Approach to Reversible Computation, in *LCCS 2001: Proceedings of the International Workshop on Logic and Complexity in Computer Science*, edited by D. Beauquier and Y. Matiyasevich, LACL 2001, 1–16.

## 2002

63. S. Abramsky, Algorithmic Game Semantics: A Tutorial Introduction, in *Proof and System Reliability*, H. Schichtenberg and R. Steinbrüggen, eds., Proceedings of the NATO Advanced Study Institute, Marktoberdorf, Kluwer Academic Publishers, 2001, 21–47.

64. S. Abramsky, E. Haghverdi and P. Scott, Geometry of Interaction and linear combinatory algebras, in *Mathematical Structures in Computer Science* vol. 12, 2002, 625–665.

### 2003

65. S. Abramsky and B. Coecke, Physical Traces: Quantum vs. Classical Information Processing, in *Electronic Notes in Theoretical Computer Science*, vol. 69, 2003, 1–26.
66. S. Abramsky and R. Jagadeesan, A Game semantics for Generic Polymorphism, in *Foundations of Software Science and Computational Structures, 6th International Conference, FOSSACS 2003*, A. D. Gordon, ed., Springer Lecture Notes in Computer Science vol. 2620, 2003, 1–22.
67. S. Abramsky, Sequentiality vs. concurrency in games and logic, *Mathematical Structures in Computer Science* vol. 13, 2003, 531–565.
68. S. Abramsky, D. R. Ghica, L. Ong and A. Murawski, Algorithmic Game Semantics and Component-Based Verification, in *Proceedings of SAVBCS 2003: Specification and Verification of Component-Based Systems*, Workshop at ESEC/FASE 2003, published as Technical Report 03-11, Department of Computer Science, Iowa State University, 2003, 66–74. Available at <http://www.cs.iastate.edu/~leavens/SAVBCS/2003/papers/SAVCBS03.pdf>.

### 2004

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70. S. Abramsky, D. Ghica, A. Murawski, C.-H. Ong and I. Stark, Nominal games and Full Abstraction for the Nu-Calculus, in *Proceedings of the 19th Annual IEEE Symposium on Logic in Computer Science: LICS 2004*, IEEE Computer Society, 150–159, 2004.
71. S. Abramsky, High-Level Methods for Quantum Computation and Information, in *Proceedings of the 19th Annual IEEE Symposium on Logic in Computer Science: LICS 2004*, IEEE Computer Society, 410–414, 2004.



72. S. Abramsky and B. Coecke, A Categorical Semantics of Quantum Protocols, in *Proceedings of the 19th Annual IEEE Symposium on Logic in Computer Science: LICS 2004*, IEEE Computer Society, 415–425, 2004.

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73. S. Abramsky and R. Jagadeesan, A Game Semantics for Generic Polymorphism, in *Annals of Pure and Applied Logic*, vol 133, 3–37, 2005.
74. S. Abramsky and B. Coecke, Abstract Physical Traces, in *Theory and Applications of Categories*, vol 14, 111–124, 2005.
75. S. Abramsky and M. Lenisa, Linear realizability and full completeness for typed lambda-calculi, in *Annals of Pure and Applied Logic*, vol 134, 122–168, 2005.
76. S. Abramsky, What are the fundamental structures of concurrency? We still don't know!, in *Algebraic process calculi: the first 25 years and beyond*, BRICS Notes Series NS-05-03, 1–5, June 2005.
77. S. Abramsky, Abstract Scalars, Loops, and Free Traced and Strongly Compact Closed Categories, in *Proceedings of CALCO 2005*, Springer Lecture Notes in Computer Science Vol. 3629, 1–31, 2005.
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79. S. Abramsky, A Structural Approach To Reversible Computation, *Theoretical Computer Science* vol. 347(3), 441–464, 2005.

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80. S. Abramsky, Socially Responsive, Environmentally Friendly Logic, *Truth and Games: Essays in Honour of Gabriel Sandu*, Aho, Tuomo and Ahti-Veikko Pietarinen, eds., Acta Philosophica Fennica, Societas Philosophicas Fennica, Helsinki, 17–46, 2006.
81. S. Abramsky and R. Duncan, A Categorical Quantum Logic, *Mathematical Structures in Computer Science*, 16, 469–489, 2006.
82. S. Abramsky, What are the fundamental structures of concurrency? We still don't know!, in *Electronic Notes in Theoretical Computer Science*, 162, 37–41, 2006.

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83. S. Abramsky, Event Domains, Stable Functions and Proof Nets. Plotkin Festschrift, in *Electronic Notes in Theoretical Computer Science*, 172, 33–67, 2007.
84. S. Abramsky and B. Coecke, Physics from Computer Science. *International Journal of Unconventional Computing*, vol. 3:3, 179–197, 2007.
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86. S. Abramsky, Game Semantics for Multi-Agent Logics: A Compositional Game Semantics for Multi-Agent Logics of Partial Information. In *Texts in Logic and Games Vol. 1*, Amsterdam University Press, pages 11–48, 2007.

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87. S. Abramsky, Petri Nets, Discrete Physics and Distributed Quantum Computation. In Pierpaolo Degano, Rocco De Nicola and Jose Meseguer, editors, *Concurrency, Graphs and Models, Essays Dedicated to Ugo Montanari on the Occasion of His 65th Birthday*. Vol. 5065 of Lecture Notes in Computer Science, pages 527–543. Springer, 2008.
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90. S. Abramsky and N. Tzevelekos, Notes on Category Theory and Categorical Logic. To appear in *New Structures for Physics*, B. Coecke (ed). *Lecture Notes in Physics*, Springer-Verlag 2008.
91. S. Abramsky and J. Väänänen, From IF to BI: a tale of dependence and separation. To appear in *Synthese*, 2008.
92. S. Abramsky, Types, Orthogonality and Genericity: some tools for communicating process architectures. To appear in Proceedings of CPA 08, 2008.

93. S. Abramsky, No-Cloning in Categorical Quantum Mechanics. To appear in *Semantic Techniques in Quantum Computation*, ed. S. Gay and I. Mackie, Cambridge University Press 2008.