

Publications

Mai Gehrke

2014

Appearing in international journals

1. Distributive envelopes and topological duality for lattices via canonical extensions, with Sam van Gool. To appear in *Order*. Published online 2013, see <http://dx.doi.org/10.1007/s11083-013-9311-7>
2. Sheaf representations of MV-algebras and lattice-ordered abelian groups via duality, with Sam van Gool and Vincenzo Marra. *Journal of Algebra* **417** (2014), 290–332.
3. Relational semantics for full linear logic, with Dion Coumans and Lorijn van Rooijen. *Journal of Applied Logic* **12** (1) (2014), 50–66.
4. A non-commutative Priestley duality, with Andrej Bauer, Karin Cvetko-Vah, Sam van Gool, and Ganna Kudryatseva. *Topology and its Applications* **160** (12) (2013), 1423–1438.
5. Δ_1 -completions of a poset, with Ramon Jansana and Alessandra Palmigiano. *Order* **30** (1) (2013), 39–64.
6. Generalised Kripke semantics for the Lambek-Grishin calculus, with Anna Chernilovskaya and Lorijn van Rooijen, to appear in the *Logic Journal of the IGPL* **20** (6) (2012), 1110–1132.
7. Finitely generated free Heyting algebras via Birkhoff duality and coalgebra, with Nick Bezhanishvili, *Logical Methods in Computer Science* **7**(2) (2011), paper 9.
8. Canonical extension and canonicity via DCPO presentations, with Jacob Vosmaer. *Journal of Theoretical Computer Science* **412**(25) (2011), 2714–2723.
9. Canonical extensions for congruential logics with the deduction theorem, with Ramon Jansana and Alessandra Palmigiano. *Annals of Pure and Applied Logic* **161** (2010), 1502–1519.
10. Canonical extensions and completions of posets and lattices, with H. A. Priestley. *Reports on Mathematical Logic* **43**(2008), 133–152.
11. Complete Congruences on Topologies and Down-Set Lattices, with Marcel Ern  and Aleš Pultr. *Applied Categorical Structures* **15**(1-2) (2007), 163–184.
12. Duality for Double Quasioperator Algebras via their Canonical Extensions, with Hilary A. Priestley. *Studia Logica* **86**(1) (2007), 31–68.
13. Canonical extensions of double quasioperator algebras: An algebraic perspective on duality for certain algebras with binary operations, with H. A. Priestley, *Journal of Pure and Applied Algebra* **209**(1) (2007), 269–290.
14. Profinite completions and canonical extensions of Heyting algebras, with Guram Bezhanishvili, Ray Mines, and Patrick Morandi, *Order* **23** (2-3) (2006), 143–161.

15. Generalized Kripke Frames, *Studia Logica* **84** (2) (2006), 241–275.
16. Canonical extensions and relational completeness of some substructural logics, with J. Michael Dunn and Alessandra Palmigiano, *Journal of Symbolic Logic* **70** (3) (2005), 713–740.
17. A Sahlqvist Theorem for distributive modal logics, with Hideo Nagahashi and Yde Venema, *Annals of Pure and Applied Logic* **131** (1-3) (2005), 65–102.
18. MacNeille completions and canonical extensions, with John Harding and Yde Venema, *Transactions of the American Mathematical Society* **358** (2) (2005), 573–590.
19. Completeness of S4 with respect to the real line: revisited, with Guram Bezhanishvili, *Annals of Pure and Applied Logic* **131**, (1-3) (2005), 287–301.
20. Bounded Distributive Lattice Expansions, with Bjarni Jónsson, *Mathematica Scandinavica* **94** (2004), 13–45.
21. Varieties generated by t-norms, with C. Walker and E. Walker, *Soft Computing* **8** (4) (2004), 264–267.
22. Euclidean hierarchy in modal logic, with Guram Bezhanishvili and Johan van Benthem, *Studia Logica* **75** (2003), 327–344.
23. Normal forms and truth tables for fuzzy logics, with C. Walker and E. Walker, *Fuzzy Sets and Systems: Special Focus Issue* **138** (1) (2003), 25 – 51.
24. Non-canonicity of MV-algebras, with H. A. Priestley, *Houston Journal* **28** (3) (2002), 449–455.
25. Bounded Lattice Expansions, with John Harding, *Journal of Algebra* **238** (2001), 345–371.
26. Monotone Distributive Lattice Expansions, with B. Jónsson, *Mathematica Japonica* **52** (2) (2000), 197–213.
27. Averaging Operators on the Unit Interval, with C. Walker and E. Walker, *International Journal of Intelligent Systems* **14** (9) (1999), 883–898.
28. A Note on Negations and Nilpotent t-Norms, with C. Walker and E. Walker, *International Journal of Approximate Reasoning* **21** (1999), 137–155.
29. Propositional Fuzzy Logics: Decidable for Some (Algebraic) Operators, Undecidable for More Complicated Ones, with B. Bouchon-Meunier, and V. Kreinovich, *Journal of Intelligent Systems* **14** (9) (1999), 935–947.
30. A Mathematical Setting for Fuzzy Propositional Logic, with C. Walker, and E. Walker, *International Journal of Uncertainty, Fuzziness, and Knowledge-based Systems* **5** (3) (1997), 223–238.
31. deMorgan Systems on the Unit Interval, with C. Walker and E. Walker, *International Journal of Intelligent Systems* **11** (1996), 733–750.
32. Some Comments on Interval Valued Fuzzy Sets, with C. Walker and E. Walker, *International Journal of Intelligent Systems* **11** (1996), 751–759.
33. Stone Algebra Extensions with Bounded Dense Sets, with C. Walker and E. Walker, *Algebra Universalis* **37** (1997), 1–23.

34. Iterated Conditionals and Symmetric Stone Algebras, with E. Walker, *Discrete Mathematics* **48** (1996), 49–63.
35. Bounded Distributive Lattices with Operators, with B. Jónsson, *Mathematica Japonica* **40** (2) (1994), 207–215.
36. G_a Actions on \mathbb{C}^n , with J. K. Deveney, and D. R. Finston, *Communications in Algebra* **22** (12) (1994), 4977–4988.
37. Uniquely Representable posets, *Annals of the New York Academy of Sciences* **728** (1994), 32–40.
38. Robinson Lattices and their Spectra, *Algebra Universalis*, **32** (1994), 204–223.
39. Calculus Instruction at New Mexico State through Weekly Themes and Cooperative Learning, with J. Alvarez, D. R. Finston, and P. Morandi, *PRIMUS* **1** (III) (1993), 83–98.
40. The Structure of Rough Sets, with E. Walker, *Bulletin of the Polish Academy of Science and Mathematics* **40** (1992), 235–245.
41. The Order Structure of Stone Spaces and the T_D -Separation Axiom, *Zeitschrift für mathematische Logik und Grundlagen der Mathematik* **37** (1991), 5–15.
42. Some Non-Standard Methods Applied to Distributive Lattice, with K. Kaiser, and M. Insall, *Zeitschrift für mathematische Logik und Grundlagen der Mathematik* **36** (1990), 123–131.
43. On the Maximality of Some Conormal Extensions of a Lattice, with K. Kaiser, *Zeitschrift für mathematische Logik und Grundlagen der Mathematik* **33** (1987), 13–18.

Appearing in conference proceedings

44. From ultrafilters on words to the expressive power of a fragment of logic, with Andreas Krebs and Jean-Éric Pin. Proceedings of the 16th International Workshop on Descriptive Complexity of Formal Systems. H. Jürgensen et al. (Eds.): DCFS 2014, LNCS 8614 (2014), pp. 138–149.
45. Urzyczyn and Loader are Logically Related, with Sylvain Salvati, Giulio Manzonetto, and Henk Barendregt. Czumaj et al (eds.), *Automata, Languages, and Programming* (ICALP 2012), LNCS **7392**, 364–376.
46. Duality and Recognition, Murlak and Sankowski (Eds.): *Mathematical Foundations of Computer Science* (MFCS 2011), LNCS **6907** (2011), 3–18.
47. A view of canonical extensions, with Jacob Vosmaer, to appear in Nick Bezhanishvili et al. (Eds.): *8th International Tbilisi Symposium on Logic, Language, and Computation* (TbiLLC 2009) *Lecture Notes in Artificial Intelligence* **6618** (2011), 77–100.
48. A Topological Approach to Recognition, with Serge Grigorieff and Jean-Eric Pin. Samson Abramsky et al. (Eds.): *Automata, Languages and Programming, 37th International Colloquium* (ICALP 2010), *Lecture Notes in Computer Science* **6199** (2) (2010), 151–162.
49. Stone Duality and the Recognisable Languages over an Algebra, in Kurz et al. (Eds.): *Algebra and Coalgebra in Computer Science*, (CALCO 2009) *Lecture Notes in Computer Science* **5728** (2009), 236–250.

50. Free Heyting Algebras: Revisited, with Nick Bezhanishvili. In A. Kurz et al.(Eds.): *Algebra and Coalgebra in Computer Science*, (CALCO 2009) *Lecture Notes in Computer Science* **5728** (2009), 251–266.
51. Distributive Lattice-Structured Ontologies, with Hans Bruun and Dion Coumans. In A. Kurz et al.(Eds.): *Algebra and Coalgebra in Computer Science*, (CALCO 2009) *Lecture Notes in Computer Science* **5728** (2009), 267–283.
52. Duality and equational theory of regular languages, with Serge Grigorieff and Jean-Eric Pin. In L. Aceto et al. (Eds.): *ICALP 2008, Part II*, *Lecture Notes in Computer Science* **5126** (2008), 246–257.
53. Varieties generated by t-norms, with G. Bezhanishvili, J. Harding, C. Walker, and E. Walker, *Proceedings of the Third International Conference on Intelligent Technologies and Third Vietnam-Japan Symposium on Fuzzy Systems and Applications* (2002), 22–24.
54. Some Basic Theory of Interval-valued Fuzzy Sets, with C. Walker and E. Walker, *Transactions of the Joint IFSA World Congress and 20-th NAFIPS International Conference* (2001), 1332–1336.
55. Normal Forms and Truth Tables for Interval-valued Fuzzy Logic, with C. Walker and E. Walker, *2001 Transactions of the Joint IFSA World Congress and 20-th NAFIPS International Conference* (2001), 1327–1331.
56. Algebraic aspects of fuzzy connectives, with C. Walker and E. Walker, *Proceedings of International symposium on Medical Informatics and fuzzy Technology: MIF'99* (1999), 306–314.

Chapters in books

57. Canonical extensions, Esakia spaces, and universal models, Chapter in *Leo Esakia on duality in modal and intuitionistic logics*, Bezhanishvili, Guram (Ed.), *Trends in Logic* (Outstanding Contributions subseries), volume 4, 2014.
58. Varieties of algebras in fuzzy set theory, with G. Bezhanishvili, J. Harding, C. Walker, and E. Walker, in *Logical, Algebraic, Analytic, and Probabilistic Aspects of Triangular Norms*, Eds. E. P. Klement and R. Mesiar, Elsevier, Amsterdam (2005), 321–344.
59. Fuzzy Logics Arising from Strict De Morgan Systems, with C. Walker and E. Walker, in *Topological and Algebraic Structures in Fuzzy Sets*, A Handbook of Recent Developments in the Mathematics of Fuzzy Sets, S. Rodabaugh and E. P. Klement, Eds., Kluwer, Dordrecht (2003), 257–276.

Other publications

60. Generalised Kripke semantics for the Lambek-Grishin calculus, with A. Chernilovskaya. *AiML peer reviewed abstract*, AiML 2008, 10 pages.
61. Special section on Concept oriented knowledge representation under uncertainty, co-editor with H.L. Larsen, *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems* **14** (1), February 2006.
62. Logik som anvendt matematik, *Matilde* (Magazine of the Danish Mathematical Association) **13**, June 2002.

63. Fuzzy normal forms and truth tables, with C. Walker and E. Walker, *Proceedings of the JCIS 2000*, 4 pp., Atlantic City, New Jersey, February 17-March 2, 2000. (peer reviewed)
64. Algebraic aspects of Fuzzy sets and Fuzzy logic, with C. Walker and E. Walker, *Proceedings of the First International Workshop on Current Trends and Developments in Fuzzy Logic*, B. K. Papadopoulos and A. Syropoulos, Eds., Thessaloniki, Greece 1999, 101–170. (peer reviewed)
65. Legitimisering af Infinitesimalerne på den Reele Linie, expository article on Non-Standard Analysis in *Famøs*, Student magazine of the Mathematics Institute at the University of Copenhagen, December 1996.
66. Towards Active Processes for Teaching and Learning, with D. Pengelley, polemic on calculus reform requested by the editors of the national committee on Calculus Reform And the First Two Years (CRAFTY), in *Calculus; The Dynamics of Change*, A. W. Roberts ed., MAA **39** (1996), 20–24.
67. La Dualité de Stone d'un Point de Vue Non Standard, *Série du Séminaire Non Standard de Paris VII* **87/4** (1987), 1–8.

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