

Wim Hordijk, Ph.D.

Publications

Journals and proceedings

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- 58.** W. Hordijk and M. Steel. Chasing the tail: The emergence of autocatalytic networks. *BioSystems* 152:1–10, 2017.
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- 56.** V. Di Cola et al. ecospat: an R package to support spatial analyses and modeling of species niches and distributions. *Ecography* 40(6):774–787, 2017.
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- 53.** W. Hordijk. Evolution of autocatalytic sets in computational models of chemical reaction networks. *Origins of Life and Evolution of Biospheres* 46(2):233–245, 2016.
- 52.** W. Hordijk and M. Steel. Comment on “Tibor Gánti and Robert Rosen” by Athel Cornish-Bowden. *Journal of Theoretical Biology* 392:122–123, 2015.
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- 45.** W. Hordijk and M. Steel. Conditions for evolvability of autocatalytic sets: A formal example and analysis. *Origins of Life and Evolution of Biospheres* 44(2):111–124 , 2014.
- 44.** A. Filisetti, M. Villani, C. Damiani, A. Graudenzi, A. Roli, W. Hordijk and R. Serra. On RAF sets and autocatalytic cycles in random reaction networks. *Communications in Computer and Information Science*, 445:113–126, 2014.

- 43.** W. Hordijk, L. Hasenclever, J. Gao, D. Mincheva and J. Hein. An investigation into irreducible autocatalytic sets and power law distributed catalysis. *Natural Computing*, 13(3):287–296, 2014.
- 42.** W. Hordijk, N Vaidya and N Lehman. Serial transfer can aid the evolution of autocatalytic sets. *Journal of Systems Chemistry* 5:4, 2014.
- 41.** J. I Smith, M. Steel and W. Hordijk. Autocatalytic sets in a partitioned biochemical network. *Journal of Systems Chemistry* 5:2, 2014.
- 40.** W. Hordijk, P. R. Wills and M. Steel. Autocatalytic sets and biological specificity. *Bulletin of Mathematical Biology* 76(1):201–224, 2014.
- 39.** W. Hordijk. Autocatalytic sets: From the origin of life to the economy. *BioScience* 63(11):877–881, 2013.
- 38.** M. Steel, W. Hordijk and J. Smith. Minimal autocatalytic networks. *Journal of Theoretical Biology* 332:96–107, 2013.
- 37.** D. W. McShea and W. Hordijk. Complexity by subtraction. *Evolutionary Biology* 40(4):504–520, 2013.
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- 33.** W. Hordijk and M. Steel. Autocatalytic sets extended: Dynamics, inhibition, and a generalization. *Journal of Systems Chemistry* 3:5, 2012.
- 32.** W. Hordijk and O. Broennimann. Dispersal routes reconstruction and the minimum cost arborescence problem. *Journal of Theoretical Biology* 308:115–122, 2012.
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- 30.** A. Espíndola, L. Pellissier, L. Maiorano, W. Hordijk, A. Guisan and N. Alvarez. Predicting present and future intra-specific genetic structure through niche hindcasting across 24 millenia. *Ecology Letters* 15(7):649–657, 2012.
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- 24.** P. Vajda, A. E. Eiben and W. Hordijk. Parameter control methods for selection operators in genetic algorithms. In G. Rudolph et al. (eds.), *Parallel Problem Solving from Nature — PPSN X*, Springer, pp. 620–630, 2008.
- 23.** S. Paulson, W. Hordijk, P. Gift, Subarani and Shanmugam. Design of an interleaver for turbo codes using genetic algorithms. *International Journal of Artificial Intelligence and Machine Learning* 6(2):1–5, 2006.
- 22.** W. Hordijk. An overview of biologically inspired computing in information security. In K. Anbumani (ed.), *Proceedings of the National Conference on Information Security*, pp. 1–14, 2005.
- 21.** W. Hordijk. An introduction to evolutionary computation. In K. Krithivasan and R. Rama (eds.), *Formal Language Aspects of Natural Computing*, pp. 77–84, 2005.
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- 11.** P. F. Stadler, W. Hordijk and J. F. Fontanari. Phase transition and landscape statistics of the number partitioning problem. *Physical Review E* 67:056701, 2003.
- 10.** W. Hordijk, J. F. Fontanari and P. F. Stadler. Shapes of tree representations of spin-glass landscapes. *Journal of Physics A* 36:3671–3681, 2003.
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4. W. Hordijk, J. P. Crutchfield and M. Mitchell. Embedded-particle computation in evolved cellular automata. In T. Toffoli, M. Biafore, and J. Leão (eds.), *PhysComp96*, New England Complex Systems Institute, pp. 153–158, 1996.
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1. W. Hordijk and B. Manderick. The usefulness of recombination. In F. Morán, A. Moreno, J. J. Merelo and P. Chacón (eds.), *Advances in Artificial Life, Proceedings of the Third European Conference on Artificial Life*, Springer-Verlag, pp. 908–919, 1995.

Book chapters

2. W. Hordijk. Correlation analysis of coupled fitness landscapes. In H. Richter and A. Engelbrecht (eds.), *Recent Advances in the Theory and Application of Fitness Landscapes*, Springer, pp. 369–393, 2013.
1. W. Hordijk, M. Steel and S. Kauffman. Autocatalytic sets: The origin of life, evolution, and functional organization. In P. Pontarotti (ed.), *Evolutionary Biology: Exobiology and Evolutionary Mechanisms*, Springer, pp. 49–60, 2013.

Other contributions

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19. W. Hordijk. Cause and process in evolution. *Extended Evolutionary Synthesis Blog*, May 17, 2017.
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- 3.** W. Hordijk. An eclectic mix of giants takes on the origin of life. *NPR 13.7*, March 10, 2013.
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Theses

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