List of Publications of Paulien Hogeweg

November 23, 2009

- **Takeuchi N, Hogeweg P. (2009)**,
  Multilevel selection in models of prebiotic evolution II: a direct comparison of co mpart-mentalization and spatial self-organization. PLoS Comput Biol. 2009 Oct;5(10):
- **Van Hoek M.J. & Hogeweg P. (2009)**,
  . Metabolic Adaptation after Whole Genome Duplication. Mol Biol Evol.26: 2441-2453
- **DJ van der Post, P Hogeweg (2009)**,
  Cultural inheritance and diversification of diet in variable environments Animal Behaviour,78: 155-166
- **Van der Post D.J., Ursem B. & Hogeweg P. (2009)**,
  . Resource distributions affect social learning on multiple timescales. Behav. Ecol. Sociobiol., 63: 1643-1658.
- **Ten Tusscher K.H. & Hogeweg P. (2009)**,
  . The role of genome and gene regulatory network canalization in the evolution of multi-trait polymorphisms and sympatric speciation. BMC. Evol. Biol., 9: 159.
- **Crombach A. & Hogeweg P. (2009)**,
  . Evolution of resource cycling in ecosystems and individuals. BMC. Evol. Biol., 9: 122.
- **Cordero O.X. & Hogeweg P. (2009b)**,
  . Regulome size in Prokaryotes: universality and lineage-specific variations. Trends Genet., 25: 285-286.
- **Cordero O.X. & Hogeweg P. (2009a)**,
  . The consequences of base pair composition biases for regulatory network organization in prokaryotes. Mol. Biol. Evol., 26: 2171-2173.
- **Van Der Post D.J. & Hogeweg P. (2008)**,
  . Diet traditions and cumulative cultural processes as side-effects of grouping. Anim. Behav., 75: 133-144
- **Takeuchi N., Salazar L., Poole A.M. & Hogeweg P. (2008)**,
  . The evolution of strand preference in simulated RNA replicators with strand displacement: implications for the origin of transcription. Biol. Direct., 3: 33.
- **Takeuchi N. & Hogeweg P. (2008)**,
  . Evolution of complexity in RNA-like replicator systems. Biol. Direct., 3:1
- **Laskowski M., Grieneisen V.A., Hofhuis H., Hove C.A., Hogeweg P., Maree A.F. & Scheres B. (2008)**,
  . Root system architecture from coupling cell shape to auxin transport. PLoS. Biol., 6: e307
- **Groenenboom M.A. & Hogeweg P. (2008a)**,
  . The dynamics and efficacy of antiviral RNA silencing: A model study. BMC. Syst. Biol., 2: 28.

- **Crombach A. & Hogeweg P. (2008)**,
  . Evolution of evolvability in gene regulatory networks. PLoS. Comput. Biol., 4: e1000112.
- **Cordero OX, Snel B, Hogeweg P.(2008)**,
  Coevolution of gene families in prokaryotes. Genome Res.18:462-468
- **Grieneisen V.A., Xu J., Maree A.F., Hogeweg P. & Scheres B. (2007)**,
  . Auxin transport is sufficient to generate a maximum and gradient guiding root growth. Nature, 449: 1008-1013.
- **Van Hoek M.J. & Hogeweg P. (2007b)**,
  . The role of mutational dynamics in genome shrinkage. Mol. Biol. Evol., 24: 2485-2494
- **Van Hoek M. & Hogeweg P. (2007a)**,
  . The effect of stochasticity on the lac operon: an evolutionary perspective. PLoS. Comput. Biol., 3: e111.
- **Takeuchi N. & Hogeweg P. (2007b)**,
  . The Role of Complex Formation and Deleterious Mutations for the Stability of RNA-Like Replicator Systems. J. Mol. Evol., 65: 668-686.
- **Takeuchi N. & Hogeweg P. (2007a)**,
  . Error-threshold exists in fitness landscapes with lethal mutants. BMC. Evol. Biol., 7: 15
- **Grieneisen V.A., Xu J., Maree A.F., Hogeweg P. & Scheres B. (2007)**,
  . Auxin transport is sufficient to generate a maximum and gradient guiding root growth. Nature, 449: 1008-1013.
- **Hogeweg P. (2007)**,
  . From population dynamics to ecoinformatics: Ecosystems as multilevel information processing systems. Ecological Informatics, 2: 103-111.
- **Crombach A. & Hogeweg P. (2007)**,
  . Chromosome rearrangements and the evolution of genome structuring and adaptability. Mol. Biol. Evol., 24: 1130-1139.
- **Cordero O.X. & Hogeweg P. (2007)**,
  . Large changes in regulome size herald the main prokaryotic lineages. Trends Genet., 23: 488-493
- **Van Hoek M.J. & Hogeweg P. (2006)**,
  . In silico evolved lac operons exhibit bistability for artificial inducers, but not for lactose. Biophys. J., 91: 2833-2843
- **Van Der Post D.J. & Hogeweg P. (2006)**,
  . Resource distributions and diet development by trial-and-error learning. Behav. Ecol. Sociobiol., 61: 65-80
- **)**,
  Merks R.M., Hoekstra A.G., Kaandorp J., Sloot P.M.A. & Hogeweg P. (2006). Problem-solving environments for biological morphogenesis. Computing in Science and Engineering, 8: 61-72.
- **Kafer J., Hogeweg P. & Maree A.F. (2006)**,
  . Moving forward moving backward: directional sorting of chemotactic cells due to size and adhesion differences. PLoS. Comput. Biol., 2: e56
- **Cordero O.X. & Hogeweg P. (2006)**,
  . Feed-forward loop circuits as a side effect of genome evolution. Mol. Biol. Evol., 23: 1931-1936
- **Takeuchi N., Poorthuis P.H. & Hogeweg P. (2005)**,

- . Phenotypic error threshold; additivity and epistasis in RNA evolution. BMC. Evol. Biol., 5: 9
- **Hogeweg P. (2005b),**
  . Multilevel particle systems and the study of biological evolution. Markov processes and related fields, 11: 291-312.
- **Hogeweg P. (2005a),**
  . Interlocking of selforganization and evolution. In: Hemelrijk C.K., ed., Self-organization and evolution of Social Systems, pp. 166-189. Cambridge Univ press.
- **Van der Post D.J. & Hogeweg P. (2004),**
  . Learning what to eat: Studying inter-relations between learning, grouping and evironmental conditions in an artificial world. LNCS, 3305: 492-501.
- **Kesmir C., Van Noort V., De Boer R.J. & Hogeweg P. (2003),**
  . Bioinformatic analysis of functional differences between the immunoproteasome and the constitutive proteasome. Immunogenetics., 55: 437-449.
- **Hogeweg P. & Takeuchi N. (2003),**
  . Multilevel selection in models of prebiotic evolution: compartments and spatial self-organization. Orig Life Evol Biosph., 33: 375-403. .
- **Hogeweg P. (2003),**
  . Computing an organism: on the interface between informatic and dynamic processes. In: Kumar S. & Bentley J., eds., On Growth, Form and Computers, p. 444. Elsevier.
- **Groenenboom M.A.C. & Hogeweg P. (2002),**
  . Space and the persistence of male-killing endosymbionts in insect populations. Proc. R. Soc. Lond. B. Biol. Sci., 269: 2509-2518.
- **Mare A.F.M. & Hogeweg P. (2002),**
  . Modelling Dictyostelium discoideum morphogenesis: the culmination. Bull. Math. Biol., 64: 327-353
- **Hogeweg P. (2002d),**
  From bioinformatic pattern analysis to evolutionary dynamics Nieuw Archief voor de Wiskunde 3:3:132-139
- **Hogeweg P. (2002c),**
  . Multilevel processes in evolution and development: computational models and biological insights. In: Lssig M. & Valleriani A., eds., Biological Evolution and Statistical Physics, Springer lecture notes in physics 585, pp. 217-239. Springer Verlag
- **Hogeweg P. (2002b),**
  . Multilevel evolution: The fate of duplicated genes. Z. Phys. Chem., 216: 77-90.
- **Hogeweg P. (2002a),**
  . Computing an organism: on the interface between informatic and dynamic processes. Biosystems, 64: 97-109
- **Mare A.F.M. & Hogeweg P. (2001),**
  . How amoeboids self-organize into a fruiting body: Multicellular coordination in Dictyostelium discoideum. Proc. Natl. Acad. Sci. USA, 98: 3879-3883
- **Zuidema W.H. & Hogeweg P. (2000),**
  . Selective advantages of syntactic language - a model study. Proceedings of the 22nd Annual Meeting of the Cognitive Science Society. Lawrence Erlbaum Associates, Hillsdale, USA
- **Pagie L.W.P. & Hogeweg P. (2000c),**
  . Optimization as side-effect of evolving allelopathic diversity. vol. 1917 of Lecture Notes in Computer Science, pp. 797-806. Proceedings PPSN VI. DownLoad PDF.

- **Pagie L.W.P. & Hogeweg P. (2000b)**,
  . Information integration and red queen dynamics in coevolutionary optimization. Proceedings CEC 2000, pp. 797-806. DownLoad PDF.
- **Pagie L.W.P. & Hogeweg P. (2000a)**,
  . Individual- and population-based diversity in restriction-modification systems. Bull. Math. Biol., 62: 759-774. MEDLINE. DownLoad PDF.
- **Hogeweg P. (2000b)**,
  . Shapes in the shadow: Evolutionary dynamics of morphogenesis. Artif. Life, 6: 85-101.
- **Hogeweg P. (2000a)**,
  . Evolving mechanisms of morphogenesis: on the interplay between differential adhesion and cell differentiation. J. theor. Biol., 203: 317-333.
- **T. Yamamoto and P. Hogeweg (1999)**,
  Evolution to Complexity: replication, elongation and assembly in an RNA world Advances in Artificial Life (ed. D. Floreano, J-D Nicoud and F.Mondada (eds.) Lecture Notes in Artificial Intelligence 1674, Springer verlag.pp. 422-426
- **Savill, N.J. and P. Hogeweg (1999)**,
  Competition and Dispersal in Predator-Prey Waves Theor. Pop. Biol. 56 (1999) 243-263
- **A.F.M. Mare, A.V. Panfilov, and P.Hogeweg (1999b)**,
  , "Phototaxis during the slug stage of Dictyostelium discoideum: a model study", Proc.R.Soc.Lond.B, 1360.
- **Mareé AF, Panfilov AV, Hogeweg P (1999a)**,
  Migration and thermotaxis of dictyostelium discoideum slugs, a model study. J Theor Biol 199(3):297-309
- **Pagie, L. and P. Hogeweg (1999)**,
  Colicin diversity; a result of eco-evolutionary dynamics. J Theor Biol ;196(2):251-61
- **van Doorn. G.S., A.J. Noest and P. Hogeweg (1998)**,
  Sympatric speciation and extinction driven by environment dependent sexual selection Proc. Royal Soc. B. 265:1915-1919
- **Hogeweg, P. (1998)**,
  On searching generic properties in non-generic phenomena: an approach to bioinformatic theory formation. Artificial Life VI (e.s C. Adami, R.K Belew, H. Kitano and c.E. Taylor MIT press pp 285-294
- **Pagie, L and P. Hogeweg (1998)**,
  Evolving adaptability due to coevolving targets. Evolutionary computation 5:401-418
- **Takumi, K. and P. Hogeweg (1998)**,
  Evolution of the Immune Repertoire with and witout Somatic DNA Recombination. J. Theor. Biol 192(3): 309-317.
- **Savill, N. J. and Hogeweg, P. (1998)**,
  Spatially induced speciation prevents extinction: the evolution of dipersal distance in oscillatory predator prey models Proc. Royal Soc. B 265:25-32
- **)**,

- **Savill, N. J. and Hogeweg, P. (1997d)**,
  A cellular automata approach for modeling cell-cell interactions in: Dynamics of Cell and Tissue Motion (eds. Alt, A. and Deutsch, A. and Dunn, G. Birkhauser Verlag, Basel
- **Savill, N. J. , Rohani, P. and Hogeweg, P. (1997c)**,
  Self-reinforcing spatial patterns enslave evolution in a host-parasitoid system J. theor. biol. 188: 11-20

- **Savill, N. J. and Hogeweg, P. (1997b)**,
  Evolutionary stagnation due to pattern-pattern interactions in a co-evolutionary predator-prey model. Artificial Life 3:81-100
- **Savill, N. J. and Hogeweg, P (1997a)**,
  Modeling morphogenesis: from single cells to crawling slugs J. theor. Biol 184:229-235
- **A.V.Panfilov and P.Hogeweg , (1996)**,
  Scroll breakup in a three dimensional excitable medium. Phys Rev E 53:1740-1743
- **van Oss, C., A.V. Panfilov, P. Hogeweg, F Siegert and C.J. Weijer (1996)**,
  Spatial pattern formation during aggregation of the slime mould Dictyostelium discoideum. J. theor. Biol 181: 203-213
- **Hogeweg, P (1995)**,
  Multilevel Evolution: Pattern generation and its evoluitonary consequences. in Chaos and Complexity (ed. J Thanh Van et al) Editions Frontieres, BP 300, France pp121-134
- **A.V.Panfilov and P.Hogeweg , (1995)**,
  Mechanisms of cardiac fibrillation, Science V.270, pp.1223-1224
- **Laan, J.D. van der, Hogeweg. P (1995)**,
  Predator-prey coevolution: interactions among different time scales. Proc. R. Soc. Lond. B. 259: 35-42
- **Laan, J.D. van der, Lhotka, L. and Hogeweg. P (1995)**,
  Sequential predation: a multi model study. J. Theor Biol. 174:149-167
- **Boerlijst, M.A. and Hogeweg, P. (1995)**,
  Attractors and spatial patterns in hypercycles with negative interactions. J. Theor. Biol 176:199-210
- **Boerlijst, M.A. and Hogeweg, P. (1995)**,
  Spatial gradients enhance persistence of hypercycles. PhysicaD 88: 29-39
- **B.N.Vasiev,P.Hogeweg and A.V.Panfilov (1994)**,
  ‚Simulation of Dictyostelium Aggeregation via Reaction-Diffusion Model", Phys. Rev. Lett, v.73,p.3173-3176
- **Huynen, M.A. and Hogeweg, P. (1994)**,
  Pattern generation in molecular evolution: exploitation of the variation in RNA landscapes. J. Mol.Evol 39:71-79
- **Hogeweg, P. (1994)**,
  On the potential role of DNA in an RNA world: Pattern generation and information accumulation in replicator systems. Ber. Bunsengesel Phys. Chem 98: 1135-1139
- **P. (1994)**,
  Multilevel Evolution: replicators and the evolution of diversity. Physica D 75 275-291
- **te Boekhorst IJA and Hogeweg, P. (1994)**,
  Selfstructuring in artificial ’CHIMPS’ offers new hypotheses for male grouping in cgimpanzees. Behaviour 130:229-252
- **te Boekhorst, IJA and Hogeweg, P. (1994)**,
  Effects of Tree size on Travelband formation in Orang Utans: Data analysis suggested by a model study. in: Artificial Life IV (eds. R.A. Brooks and P. Maes) MIT Press pp 119-129
- **Panfilov, A. and Hogeweg, P. (1993)**,
  Spiral Breakup in a modified Fitzhugh-Nagumo model. Physics Letters A 176:295
- **Huynen, M.A., D.A.M. Konings and P. Hogeweg (1993)**,
  Multiple coding and the evolutionary properties of RNA secondary structure. J. Theor. Biol 165: 251-267

- **Huynen, M.A., D.A.M. Konings and P. Hogeweg (1992)**,
  Equal G and C content in histone genes indicate selection pressures on messenger RNA. J. Mol Evol 34: 280-291
- **Hogeweg, P. (1992)**,
  As large as life and twice as natural: bioinformatics and the artificial life paradigm. in: D G. Green and T. J. Bossomaier (eds.) Complex systems: From Biology to Computation. IOS Press pp 2-10
- **Hogeweg, P. and Hesper, B. (1992)**,
  Evolutionary dynamics and the coding structure of sequences: multiple coding as a consequence of crossover and high mutation rates. Computers Chem 16:171-182
- **Hogeweg, P. (1992)**,
  A large as life and twice as natural: bioinformatische bespiegelingen. Oratie RUU Utrecht.
- **De Boer R.J., van der Laan J.D. Hogeweg P. (1992)**,
  . Randomness and pattern scale in the immune network Thinking about Biology , (Stein W.D. Varela F.J., Eds), SFI Lectures in Complex Systems , Addison-Wesley, Redwood City, CA.
- **De Boer R.J., Hogeweg P. Perelson A.S. (1992)**,
  . Growth and recruitment in the immune network Theoretical and Experimental insight into Immunology , (Perelson A.S., Weisbuch G. Coutinho A., Eds.), Springer, pp223-247
- **Hogeweg P. and Hesper, B. (1991)**,
  Evolution as pattern processing: TODO as substrate for evolution, From Aninmals to Animats (eds. JA Meyer and SW Wilson) MIT Press Bradford books pp 492-497
- **Hogeweg P. and Hesper B. (1991)**,
  Crowns Crowding, An individual oriented model of the Acanthaster Phenomenon. in: Acanthaster and the Coral Reef: a theoretical perspective (Bradbury R., ed.), Lecture Notes in BioMathematics 88 Springer. pp 169-188.
- **Gerrits, M. and Hogeweg, P. (1991)**,
  Redundant coding of an NP complete problem allows effective GA search. in: Proceedings of first international conference on Parallel Problem Solving from Nature (PPSN) Springer pp 70-74
- **Boersma M., van Schaik C.P. and Hogeweg P. (1991)**,
  Nutrient gradients and spatial structure in tropical forests: a model study. Ecological modelling 55: 219-140
- **Boerlijst, M.A. and Hogeweg, P. (1991)**,
  Selfstructuring and Selection: Spiral waves as a substrate for prebiotic evolution. in: Artificial Life II. SFI Studies in the sciences of complexity Vol X (ed. C.G Langton) Addison Wesley pp 255-276
- **Boerlijst M.A. and Hogeweg P. (1991)**,
  Spiral wave structure in pre-biotic evolution: Hypercycles stable against parasites. Physica D 48:17-28
- **van Ooyen A. and P. Hogeweg (1990)**,
  Iterative Character weighting based on mutation frequency: a new method for constructing phyletic trees. J. Mol. Evol. 31:330-342
- **Kwakman, J.H.J.M., D.A.M. Konings, P. Hogeweg, H.J. Pel, and L.A. Grivell)**,
  (1990) Structural analysis of a group II Intron by chemical modification and minimal energy calculations. Journal of Biomolecular Structure and dynamics 8:413-430
- **Hogeweg P. and B. Hesper (1990)**,

: Individual oriented modelling in Ecology. Mathl Comput Modelling 13(6) pp 83-90

- **Hogeweg, P. and B. Hesper (1990)**,
Crowns crowding, an individual oriented model of the Acanthaster phenomenon. In: Modelling the Acanthaster phenomenon (Bradbury R., ed.), Springer Lecture Notes in Mathematical Biology pp169-188.

- **Van den Hoek Ostende, L.W., Ruemke, C.G. and P. Hogeweg (1989)**,
The use of time-constrained minimal spanning subtrees in the reconstruction of the phylogeny of the European Dismanine Moles (Desmaninae, Talpidae, Insectivora) Proc. KNAW B92, 47-60.

- **De Boer, R.J., Ballieux, R.E. and P. Hogeweg (1989)**,
theoretical Immunology: Proceedings of a one-day symposium held in Utrecht. Immun. Lett. 22, 79-82.

- **Huynen, M.A. and P. Hogeweg (1989)**,
Genetic algorithms and information accumulation during the evolution of gene regulation. In: Genetic Algorithms. (Schaffer J.D., ed.), Morgan Kaufmann Publ. San Mateo Calif. pp. 225-230.

- **De Boer, R.J. and P. Hogeweg (1989d)**,
Idiotypic networks incorporating T-B cell Cooperation. The conditions for percolation. J. Theor. Biol. 139, 17-38.

- **De Boer, R.J.and P. Hogeweg (1989c)**,
Unreasonable implications of reasonable idiotypic network assumptions. Bull. Math. Biol. 51, 381-408.

- **De Boer, R.J. and P. Hogeweg (1989b)**,
Memory but no suppression in low dimensional symmetric idiotypic nentworks. Bull. Math. Biol. 51, 223-246.

- **De Boer, R.J. and P. Hogeweg (1989a)**,
Stability of symmetric idiotypic networks; a critique of Hoffman's analysis. Bull. Math. Biol. 51, 381-408.

- **Konings, D.A.M. and P. Hogeweg (1989)**,
Pattern analysis for RNA secondary structure. Similarity and consensus of minimal-energy folding. J. Mol. Biol. 207, 596-614.

- **Hogeweg, P. (1989)**,
Local T-T cell and T-B cell interactions: a cellular automaton approach. Immun. Lett. 22, 113-122.

- **Hogeweg, P. (1989)**,
Simplicity and complexity in MIRROR universes. Biosystems 23, 231-246.

- **Hogeweg, P. and B. Hesper (1989)**,
An adaptive, selfmodifying, non goal directed modelling approach. In: Modelling and simulation methodology: Knowledge systems paradigms (Elzas, M.S., Oren, T.I. and B.P. Zeigler, eds.). Amsterdam North Holland, pp. 77-92.

- **Konings, D.A.M., Bredenbeek, P.J., Noten, J.F.H., Hogeweg, P. and W.J.M. Spaan (1988)**,
Differential premature termination of transcription as a proposed mechanism of coronavirus gene expression NAR 16, 10845-10860.

- **v.d. Laan, J.D. and P. Hogeweg (1988)**,
Differential evolution resistance in predators and prey. In: Ecodynamics - Contributions to theoretical ecology. (Wolff, W., Soeder, C-J. and F.R. Drepper, eds.) Springer Verlag Berlin, Heidelberg, pp. 89-94.

- **Hogeweg, P. (1988)**,
  Cellular automata as a paradigm for ecological modeling. Appl. Math. Comp. 27, 81-100.
- **Hogeweg, P. (1988)**,
  MIRROR beyond MIRROR, puddles of Life. In: Artificial Life (C. Langton, ed.). Addison Wesley Publ. Comp., pp. 297-315.
- **Heringa, J., Hogeweg, P. and J. van Brederode (1987)**,
  Stability of a two-locus 'coacting' cline in Silene latifolia: a model study. Biochem. System. Ecol. 15, 217-224.
- **Konings, D.A.M., van Duyn, L.P., Voorma, H.O. and P. Hogeweg (1987)**,
  Minimal energy foldings of eukaryotic mRna's form a separate leader domain. J. Theor. Biol. 127, 63-78.
- **Konings, D.A.M., Hogeweg, P. and B. Hesper (1987)**,
  Evolution of the primary and secondary structures of the Ela mRNAs of the adenovirus. Mol. Biol. Evol. 4, 300-314.
- **De Boer, R.J. and P. Hogeweg (1987b)**,
  Self non-self discrimination due to immunological non-linearities: the analysis of a series of models by numericdal methods. IMA J. Math . applied in Medicine and Biology pp. 1-32.
- **De Boer, R.J. and P. Hogeweg (1987a)**,
  Immunological discrimination between self and non-self by precursor depletion and memory accumulation. J. Theor. Biol. 124, 343-369.
- **Hogeweg, P. and B. Hesper (1987)**,
  Simulation modelling formalism: heterarchical systems. In: Systems and Control Encyclopeadia (M.G. Singh, ed.) Pergamon Press pp. 4350-4353.
- **De Boer, R.J., Michelson, S. and P. Hogeweg (1986)**,
  Concomitant immunization by the fully antigenic counterparts prevents modulated tumor cells from escaping cellular immune elimination. J. of Immunol., pp. 4319-4327.
- **De Boer, R.J. and P. Hogeweg (1986)**,
  Interactions between macrophages and T-lymphocytes: sneaking through intrinsic to helper T cell dynamics. J. Theor. Biol. pp 331-351.
- **Hogeweg, P. and B. Hesper (1986)**,
  Knowledge seeking in variable structure models. In: Modelling and Simulation in the Artificial Intelligence Era (ed. Elzas, Oren and Klir) North Holland, pp. 227-243.
- **Hogeweg, P. and D.A.M. Konings (1985)**,
  U1 snRNA: the evolution of its primary and secondary structure. J. Mol. Evol. 21, 323-333.
- **De Boer, R.J., Hogeweg, P., Dullens, H.F.J., De Weger, R.A. and W. den Otter (1985)**,
  MacropHage T Lymphocyte interactions in the anti-tumor immune response: a mathematical model. J. Immunol. 134, 2748-2758.
- **De Boer, R.J. and P. Hogeweg (1985)**,
  Tumor escape from immune elimination: Simplified precursor bound cytotoxicity models. J. Theor. Biol. 113, 719-736.
- **Hogeweg, P. and B. Hesper (1985b)**,
  Interesting events and distributed systems. In: SCS Multiconference 1985 pp. 81-87. (38) Hogeweg P., Hesper, B., van Schaik, C.P. and W.G. Beeftink (1985) Patterns in vegetation succession, an ecomorphological study. In: The population structure of vegetation. (White J., ed.) Dr. W. Junk Publ., pp 637-666.

- **Hogeweg, P. and B. Hesper (1985a)**,
  Socioinformatic processes, a MIRROR modelling methodology. J. Theor. Biol. 113, 311-330.
- **Prentice, H.C., Mastenbroek, O., Berendsen, W. and P. Hogeweg (1984)**,
  Geographic variation in the pollen of Silene latifolia (S. alba, S. pratensis): a quantitative morphological analysis of population data. Can. J. Bot., 1259-1267.
- **Mastenbroek, O., Prentice, H.C., Heringa, J. and P. Hogeweg (1984)**,
  Corresponding patterns of geographic variation among populations of Silene latifolia (= S. alba = S. pratensis). Plant syst. and Evol. 145, 227-242.
- **Mastenbroek, O., Hogeweg, P., Heringa, J., Niemann, G.J. van, Nigtevecht G. van and J. van Brederode (1984)**,
  Isozyme variation: a response to different environments. Biochem. Syst. Ecol. 12, 29-36.
- **Mastenbroek, O. Prentice, H.C. Heringa, J. and P. Hogeweg (1984)**,
  Corresponding patterns of geographic variation among populations of Silene latifolia (= S.alba = S. pratensis) (Caryiphyllaceae) Pl. Syst. Evol. 145, 227-242.
- **Hogeweg, P. and B. Hesper (1984c)**,
  Superblocks and tesselations in continuous system simulation. In: UKSC Conf. on Computer Simulation. Butterworth pp. 102-108.
- **Hogeweg, P. and B. Hesper B. (1984b)**,
  The alignment of sets of sequences and the construction of phyletic trees: an integrated method. J. Mo.l Evol. 20, 175-186.
- **Hogeweg, P. and B. Hesper (1984a)**,
  Energy directed folding of RNA sequences. NAR 12, 67-74.
- **Mastenbroek, O., Hogeweg P., van Brederode J. and G. van Nigtevecht (1983)**,
  A pattern analysis of the geographical distribution of flavon-glycosylating genes in silene pratensis. Biochem. syst. and Ecol. 11, 91-96.
- **Hogeweg, P. and B. Hesper (1983)**,
  The ontogeny of the interaction structure in BumbleBee colonies: a MIRROR model. Behav. Ecol. Sociobiol. 12, 271-283.
- **van Doorn, A. and P. Hogeweg (1982)**,
  Die Entwicklung des agonistischen Verhaltens innerhalb der Arbeiterinnenkaste und zwischen Arbeiterinnen und der Koenigin waehrend der Volkentwicklung bei der Erdhummel Bombus terrestris. Mitt. Deutsch. Ges. Alg. angew. Entomol.
- **Hogeweg, P.and A.J. Richter (1982)**,
  INSTAR, a discrete event model for simulating zooplankton population dynamics. Hydrobiologia 95, 275-285.
- **Hogeweg, P. and B. Hesper (1982)**,
  Pattern analysis and simulation in the study of social insects. In: The Biology of Social Insects. (M.J. Breed et al., eds.) Westview Press Boulder Colo. p. 397.
- **Van de Honk, C. and P. Hogeweg (1981)**,
  The ontogeny of the social structure in an captive Bombus terrestris colony. Behav. Ecol. and Sociobiol. 9, 111-119.
- **Hogeweg, P. and B. Hesper (1981d)**,
  Oligothetic characterisation of clusters. Patt. Recog. 14, 131-136.
- **Hogeweg, P. and B. Hesper (1981c)**,
  Selfstructurering simulation systems. Int. Symp. on Cybernetics and Software. Int Ass for cybernetics Namur Doc 4, 63-73.
- **Hogeweg, P. and B. Hesper (1981b)**,

On the role of OBSERVERs in large scale systems. Proc. UKSC Conference on computer simulation. Westbury House, Harrogate, G.B. pp. 420-425.

- **Hogeweg, P. and B. Hesper (1981a)**,
  Two predators and a prey in a patchy environment: An application of MICMAC modelling. J. Theor. Biol. 93, 411-432.
- **Rappoldt, C. and P. Hogeweg (1980)**,
  Niche packing and number of species. Am. Nat. 116, 480-492.
- **Hogeweg, P. (1980)**,
  Locally synchronised developmental systems, conceptual advantages of discrete event formalism. Int J Gen. Syst. 6, 57-73.
- **Van Noordwijk, K., Beeftink, W.C. and P. Hogeweg (1979)**,
  Vegetation development of Salt Marsh flats after disappearance of the tidal factor. Vegetatio 39, 1-13
- **Koek-Noorman, J., Hogeweg P., van Maanen W.H.M. and B.J.H. ter Welle (1979)**,
  Wood anatomy of the Blackeeae (Melastomataceae). Act. Bot. Neerl. 28, 21-43.
- **Hengeveld, R. and P. Hogeweg (1979)**,
  Cluster analysis of the distribution patterns of dutch Carabid species. (Col.) In: Multivariate methods in ecological work. (Orloci L., Rao, C.R. and Stiteler W.M., eds.) Statistical Ecology Series vol. 7 Int. Coop. Publ. House pp. 65-85.
- **Hogeweg, P. and B. Hesper (1979)**,
  Heterarchical selfstructuring simulation systems: concepts and applications in biology. In: Methodology in systems modelling and simulation. (Zeigler B.P., Klir, G.J., Oren, R.I. eds.) North Holland. pp. 221-231.
- **Hogeweg, P. (1978)**,
  Simulation of cellular forms. In: Frontiers in systems modelling. Simulation 31, 90-95.
- **Hogeweg, P. and B. Hesper (1978)**,
  Interactive instruction on population interactions. Comp. Biol. and Med. 8, 319-327.
- **Van Schaik, C.P. and P. Hogeweg (1977)**,
  A numerical syntaxonomic study of the Calthion Palustris Tx. 37 in the Netherlands. Vegetatio 35, 65-80.
- **Hogeweg, P. (1976)**,
  Iterative character weighing in numerical taxonomy. Comp. Biol. Med. 6, 199-211.
- **Hogeweg, P. (1976)**,
  Comment on P. Legendre: ”a posteriori weighting of descriptors”. Taxon 25, 335-337.
- **Hogeweg, P. (1976)**,
  Topics in biological pattern analysis, Proefschrift RUU.
- **Hogeweg, P. and J. Koek-Noorman (1975)**,
  Woodanatomical classification using iterative character weighing, Acta Bot. Neerl. 24, 269-283.
- **Koek-Noorman, J. and P. Hogeweg (1974)**,
  The woodanatomy of Vangueriaceae, Cinchoneae and Rondeletieae (Rubiaceae), Acta Bot Neerl 23, 165-179.
- **Hogeweg, P. (1974)**,
  Concepts for simulation, a comparison based on simulation languages. In: Developments in systems theory (Buffart H.F.J.M. and Oud H.L., eds.), Stenfert Kroese, Leiden, Vol. 1, 119-135.
- **Hogeweg, P. and B. Hesper (1974)**,

A model study on biomorphological description. Pattern recognition 6, 165-179.

- **Hogeweg, P. and A.L. Brenkert (1969)**,
  Affinities between growth forms in aquatic vegetation. Tropical Ecology pp. 182-194.
- **Hogeweg, P. and A.L. Brenkert (1969)**,
  Structure of aquatic vegetation: a comparison of aquatic vegetation in India, the Netherlands and Czecholovakia. Tropical Ecology 10, 139-162.