

BOOKS

1. A.C.C. Coolen, ‘The Mathematical Theory of Minority Games - Statistical Mechanics of Interacting Agents’ (Oxford University Press 2005)
2. A.C.C. Coolen, R. Kühn and P. Sollich, ‘Theory of Neural Information Processing Systems’ (Oxford University Press 2005)
3. A.C.C. Coolen, A. Annibale and E.S. Roberts, ‘Generating Random Networks and Graphs’ (Oxford University Press 2017)

PUBLICATIONS IN SCIENTIFIC JOURNALS

1. A.C.C. Coolen and D. van Norren, *Biol. Cybern.* 58 (1988), 123-128
‘*Kinetics of Human Cone Photopigment Explained with a Rushton-Henry Model*’
2. A.C.C. Coolen and C.C.A.M. Gielen, *Europhys. Lett.* 7 (1988), 281-285
‘*Delays in Neural Networks*’
3. A.C.C. Coolen and Th.W. Ruijgrok, *Phys. Rev.* A38 (1988), 4253-4255
‘*Image Evolution in Hopfield Networks*’
4. A.C.C. Coolen, H.J.J. Jonker and Th.W. Ruijgrok, *Phys. Rev.* A40 (1989), 5295-5298
‘*Size of the Domains of Attraction in the Hopfield Model*’
5. A.C.C. Coolen and F.W. Kuijk, *Neural Networks* 2 (1989), 495-506
‘*A Learning Mechanism for Invariant Pattern Recognition in Neural Networks*’
6. A.C.C. Coolen and A.J. Noest, *J. Phys.* A23 (1990), 575-579
‘*Selective Pattern Recall in Neural Networks by Chemical Modulation*’
7. A.C.C. Coolen, *Future Generations Computer Systems* 6 (1990), 121-130
‘*Ising Spin Neural Networks with Spatial Structure*’
8. Th.W. Ruijgrok and A.C.C. Coolen, *Acta Phys. Pol.* B21 (1990), 379-389
‘*Generalised Hopfield Models for Neural Networks*’
9. P.F.M.J. Verschure and A.C.C. Coolen, *Network* 2 (1991), 189-206
‘*Adaptive Fields: Distributed Representations of Classically Conditioned Associations*’
10. A.C.C. Coolen, *J. Phys.* A24 (1991), 2665-2675
‘*Analytical Expressions for Neural Interactions which Improve upon the Projector Rule*’
11. A.C.C. Coolen, *Europhys. Lett.* 16 (1991), 73-78
‘*On the Relation between Stability Parameters and Sizes of Domains of Attraction in Attractor Neural Networks*’
12. H.J.J. Jonker and A.C.C. Coolen, *J. Phys.* A24 (1991), 4219-4234
‘*Unsupervised Dynamic Learning in Layered Neural Networks*’
13. A.C.C. Coolen and L.G.V.M. Lenders, *J. Phys.* A25 (1992), 2577-2592
‘*Dual Processes in Neural Network Models I: Neural Dynamics versus Dynamics of Learning*’
14. A.C.C. Coolen and L.G.V.M. Lenders, *J. Phys.* A25 (1992), 2593-2606
‘*Dual Processes in Neural Network Models II: Analysis of Zero-temperature Fixed-Point Equations*’
15. M. Bartholomeus and A.C.C. Coolen, *Biol. Cybern.* 67 (1992), 285-290
‘*Sequences of Smoothly Correlated Patterns in Neural Networks with Random Transmission Delays*’
16. A.C.C. Coolen and D. Sherrington, *J. Phys.* A25 (1992), 5493-5526
‘*Competition Between Pattern Reconstruction and Sequence Processing in Non-Symmetric Neural Networks*’
17. H.J.J. Jonker and A.C.C. Coolen, *J. Phys.* A26 (1993), 563-579
‘*Learning in Neural Networks by Eliminating Frustrated Bonds*’
18. D. Sherrington, K.Y.M. Wong and A.C.C. Coolen, *J. Physique I* 3 (1993), 331-337
‘*Noise and Competition in Neural Networks*’
19. L. Viana and A.C.C. Coolen, *J. Physique I* 3 (1993), 777-786
‘*Attraction Domains in Neural Networks*’
20. A.C.C. Coolen, A.J. Noest and G.B. de Vries, *Network* 4 (1993), 101-116
‘*Modelling Chemical Modulation of Neural Processes*’
21. H.J.J. Jonker, A.C.C. Coolen and J.J. Denier van der Gon, *J. Phys.* A26 (1993), 2549-2571
‘*On the Function and Development of Spatial Structure in Layered Neural Networks*’
22. W.A.J.J. Wiegierinck and A.C.C. Coolen, *J. Phys.* A26 (1993), 2535-2548
‘*The Connections of Large Perceptrons*’
23. R.W. Penney, A.C.C. Coolen and D. Sherrington, *J. Phys.* A26 (1993), 3681-3695
‘*Coupled Dynamics of Fast Spins and Slow Interactions in Neural Networks and Spin Systems*’
24. A.C.C. Coolen, R.W. Penney and D. Sherrington, *Phys. Rev.* B48 (1993), 16116-16118
‘*Coupled Dynamics of Fast Spins and Slow Interactions: An Alternative Perspective on Replicas*’

25. A.C.C. Coolen and D. Sherrington, Phys. Rev. Lett. 71 (1993), 3886-3889
'Dynamics of Fully Connected Attractor Neural Networks near Saturation'
26. A.C.C. Coolen and D. Sherrington, Physica A 200 (1993), 602-607
'Equilibrium Distributions of Stochastic Networks without Detailed Balance'
27. A.C.C. Coolen and D. Sherrington, Phys. Rev. E49 (1994), 1921-1934
'Order Parameter Flow in the Fully Connected Hopfield Model near Saturation'
28. A.C.C. Coolen and S. Franz, J. Phys. A27 (1994), 6947-6954
'Closure of Macroscopic Laws in Disordered Spin Systems: a Toy Model'
29. A.C.C. Coolen and D. Sherrington, J. Phys. A27 (1994), 7687-7707
'Order Parameter Flow in the SK Spin-Glass I: Replica Symmetry'
30. S.N. Laughton and A.C.C. Coolen, J. Phys. A27 (1994), 8011-8028
'Quasi-periodicity and Bifurcation Phenomena in Ising Spin Neural Networks with Asymmetric Interactions'
31. S.N. Laughton and A.C.C. Coolen, Phys. Rev. E51 (1995), 2581-2599
'Order-Parameter Flow in Symmetric and Nonsymmetric Fully Connected Attractor Neural Networks Near Saturation'
32. W. Whyte, D. Sherrington and A.C.C. Coolen, J. Phys. A28 (1995), 3421-3437
'Competition Between Pattern Recall and Sequence Processing in a Neural Network Storing Correlated Patterns'
33. S.N. Laughton and A.C.C. Coolen, J. Stat. Phys. 80 (1995), 375-387
'Macroscopic Lyapunov Functions for Separable Stochastic Neural Networks with Detailed Balance'
34. S.N. Laughton, A.C.C. Coolen and D. Sherrington, J. Phys. A29 (1996), 763-786
'Order-Parameter Flow in the SK Spin-Glass II: Inclusion of Microscopic Memory Effects'
35. A.C.C. Coolen, S.N. Laughton and D. Sherrington, Phys. Rev. B53 (1996), 8184-8187
'Dynamical Replica Theory for Disordered Spin Systems'
36. A.C.C. Coolen and L. Viana, J. Phys. A29 (1996), 7855-7866
'Feed-Forward Chains of Recurrent Attractor Neural Networks Near Saturation'
37. C.W.H. Mace and A.C.C. Coolen, Statistics and Computing 8 (1998), 55-88
'Statistical Mechanical Analysis of the Dynamics of Learning in Perceptrons'
38. H.J.J. Jonker, A.C.C. Coolen and J.J. Denier van der Gon, Network 9 (1998), 345-362
'Autonomous Development of Decorrelation Filters in Neural Networks with Recurrent Inhibition'
39. A. Castellanos, A.C.C. Coolen and L. Viana, J.Phys. A31 (1998), 6615-6634
'Finite-Size Effects in Separable Recurrent Neural Networks'
40. A. Düring, A.C.C. Coolen and D. Sherrington, J.Phys. A31 (1998), 8607-8621
'Phase Diagram and Storage Capacity of Sequence Processing Neural Networks'
41. G. Jongen, D. Bollé and A.C.C. Coolen, J. Phys. A31 (1998), L737-L742
'The XY Spin-Glass with Slow Dynamic Couplings'
42. H.C. Rae, P. Sollich and A.C.C. Coolen, J. Phys. A32 (1999), 3321-3339
'On-Line Learning with Restricted Training Sets: An Exactly Solvable Case'
43. N.S. Skantzos and A.C.C. Coolen, J. Phys. A33 (2000), 1841-1855
'Random Field Ising Chains with Synchronous Dynamics'
44. N.S. Skantzos and A.C.C. Coolen, J. Phys. A33 (2000), 5785-5807
' $(1 + \infty)$ -Dimensional Attractor Neural Networks'
45. A.C.C. Coolen and D. Saad, Phys. Rev. E62 (2000), 5444-5487
'Dynamics of Learning with Restricted Training Sets'
46. P. Sollich, N. Nishimori, A.C.C. Coolen and A.J. van der Sijs, J. Phys. Soc. Jap. 69 (2000), 3200-3213
'Nontrivial Phase Behaviour in the Infinite-Range Quantum Mattis Model'
47. A.C.C. Coolen, D. Saad and Y.S. Xiong, Europhys. Lett. 51 (2000), 691-697
'On-line Learning from Restricted Training Sets in Multilayer Neural Networks'
48. H.C. Rae, J.F. Heimerl and A.C.C. Coolen, J. Phys. A33 (2000), 8703-8722
'Non-deterministic Learning Dynamics in Large Neural networks due to Structural Data Bias'
49. N.S. Skantzos and A.C.C. Coolen, J. Phys. A34 (2001), 929-942
'Attractor Modulation and Proliferation in $(1 + \infty)$ -Dimensional Neural Networks'
50. J. van Mourik and A.C.C. Coolen, J. Phys. A34 (2001), L111-L117
'Cluster Derivation of Parisi's RSB Solution for Disordered Spin Systems'
51. J.A.F. Heimerl and A.C.C. Coolen, Phys. Rev. E63 (2001), 056121
'Generating Functional Analysis of the Dynamics of the Batch Minority Game with Random External Information'
52. G. Jongen, J. Anemüller, D. Bollé, A.C.C. Coolen and C Perez-Vicente, J. Phys. A34 (2001), 3957-3984
'Coupled Dynamics of Fast Spins and Slow Exchange Interactions in the XY Spin Glass'

53. N.S. Skantzos, J. van Mourik and A.C.C. Coolen, J. Phys. A34 (2001), 4437-4457
'A Solvable Model of Secondary Structure Formation in Random Hetero-Polymers'
54. J.I. Inoue and A.C.C. Coolen, J. Phys. A34 (2001), L401-L408
'Dynamics of On-Line Hebbian Learning with Structurally Unrealizable Restricted Training Sets'
55. H. Chakravorty, J. van Mourik and A.C.C. Coolen, Eur. Phys. J. E5 (2001), 539-550
'Solvable Lattice Gas Models of Random Heteropolymers at Finite Density II: Dynamics and Transitions to Compact States'
56. J.A.F. Heimeel and A.C.C. Coolen, J. Phys. A34 (2001), 9009-9026
'Supervised Learning with Restricted Training Sets: a Generating Functional Analysis'
57. A.C.C. Coolen and J.A.F. Heimeel, J. Phys. A34 (2001), 10783-10804
'Dynamical Solution of the On-Line Minority Game'
58. A.C.C. Coolen, J.A.F. Heimeel and D. Sherrington, Phys. Rev. E65 (2001), 016126
'Dynamics of the Batch Minority Game with Inhomogeneous Decision Noise'
59. T. Uezu and A.C.C. Coolen, J. Phys. A35 (2002), 2761-2809
'Hierarchical Self-Programming in Recurrent Neural Networks'
60. D. Sherrington, A.C.C. Coolen and J.A.F. Heimeel (2002), Physica A 314, 83-91
'Stochastic decision making in the minority game'
61. H. Chakravorty, A.C.C. Coolen and D. Sherrington, J. Phys. A35 (2002), 8647-8671
'Coupled dynamics of sequence selection and compactification in mean-field hetero-polymers'
62. A.C.C. Coolen and C. Pérez-Vicente, J. Phys. A36 (2003), 4477-4508
'Partially and Fully Frustrated Coupled Oscillators with Random Pinning Fields'
63. A.C.C. Coolen, Markov Processes and Related Fields 9 (2003), 177-194
'Non-Equilibrium Statistical Mechanics of Minority Games'
64. A.C.C. Coolen and V. Del Prete, Rev. Neurosci. 14 (2003), 181-193
'Statistical mechanics beyond the Hopfield model: solvable problems in neural network theory'
65. B. Wemmenhove and A.C.C. Coolen, J. Phys. A36 (2003), 9617-9633
'Finite Connectivity Attractor Neural Networks'
66. T. Galla, A.C.C. Coolen and D. Sherrington, J. Phys. A36 (2003), 11159-11172
'Dynamics of a spherical Minority Game'
67. V. Del Prete and A.C.C. Coolen, Neurocomputing 58-60 (2004), 239-244
'Non-Equilibrium Statistical Mechanics of Recurrent Networks with Realistic Neurons'
68. J.P.L. Hatchett, B. Wemmenhove, I. Pérez-Castillo, T. Nikolettopoulos, N.S. Skantzos and A.C.C. Coolen, J. Phys. A37 (2004), 6201-6220
'Parallel Dynamics of Disordered Ising Spin Systems on Finitely Connected Random Graphs'
69. T. Nikolettopoulos, A.C.C. Coolen, I. Pérez-Castillo, N.S. Skantzos, J.P.L. Hatchett and B. Wemmenhove, J. Phys. A37 (2004), 6455-6475
'Replicated Transfer Matrix Analysis of Ising Spin Models on 'Small World' Lattices'
70. J.P.L. Hatchett and A.C.C. Coolen, J. Phys. A37 (2004), 7199-7212
'Asymmetrically Extremely Dilute Neural Networks with Langevin Dynamics and Unconventional Results'
71. B. Wemmenhove, N.S. Skantzos and A.C.C. Coolen, J. Phys. A37 (2004), 7653-7670
'Slowly Evolving Connectivity in Recurrent Neural Networks I: The Extreme Dilution Regime'
72. T. Nikolettopoulos and A.C.C. Coolen, J. Phys. A37 (2004), 8433-8456
'Diagonalization of Replicated Transfer Matrices for Disordered Ising Spin Systems'
73. I. Pérez-Castillo, B. Wemmenhove, J.P.L. Hatchett, A.C.C. Coolen, N.S. Skantzos and T. Nikolettopoulos, J. Phys. A37 (2004), 8789-8799
'Analytic Solution of Attractor Neural Networks on Scale-free Graphs'
74. A.C.C. Coolen, J. Phys. A38 (2005), 2311-2347
'Generating functional analysis of minority games with real market histories'
75. A.C.C. Coolen, N.S. Skantzos, I. Pérez Castillo, C.J. Perez Vicente, J.P.L. Hatchett, B. Wemmenhove and T. Nikolettopoulos, J. Phys. A38 (2005), 8289-8317
'Finitely connected vector spin systems with random matrix interactions'
76. J.P.L. Hatchett, I. Pérez Castillo, A.C.C. Coolen and N.S. Skantzos, Phys. Rev. Lett. 95 (2005), 117204
'Dynamical replica analysis of disordered Ising spin systems on finitely connected random graphs'
77. T. Uezu, C. Kadono, J.P.L. Hatchett and A.C.C. Coolen, Prog. Theor. Phys. 161 (2006), 385-388
'A large scale dynamical system immune network model with finite connectivity'
78. N. Shayeghi and A.C.C. Coolen, J. Phys. A39 (2006), 13921-13950
'Generating functional analysis of batch minority games with arbitrary strategy numbers'

79. A. Mozeika and A.C.C. Coolen, J. Phys. A41 (2008), 115003
'Dynamical replica analysis of processes on finitely connected random graphs: I. Vertex covering'
80. C.J. Pérez-Vicente and A.C.C. Coolen, J. Phys. A41 (2008), 255003
'Spin models on random graphs with controlled topologies beyond degree constraints'
81. S. Rabello, A.C.C. Coolen, C.J. Pérez-Vicente and F. Fraternali, J. Phys. A41 (2008), 285004
'A solvable model of the genesis of amino-acid sequences via coupled dynamics of folding and slow genetic variation'
82. A.C.C. Coolen and N. Shayeghi, J. Phys. A41 (2008), 324006
'Generating functional analysis of minority games with inner product strategy definitions'
83. P. Papadopoulos and A.C.C. Coolen, J. Phys. A41 (2008), 365002
'Market response to external events and interventions in spherical minority games'
84. G. Bianconi, A.C.C. Coolen and C.J. Perez-Vicente, Phys. Rev. E78 (2008), 016114
'Entropies of complex networks with hierarchically constrained topologies'
85. K. Makrogianneli et al, Mol. Cell Biol. 29 (2009), 2997-3006
'Integrating receptor signal inputs that influence small rho GTPase activation dynamics at the immunological synapse'
86. A. Mozeika and A.C.C. Coolen, J. Phys. A42 (2009), 195006
'Dynamical replica analysis of processes on finitely connected random graphs: II. Dynamics in the Griffiths phase of the diluted Ising ferromagnet'
87. K. Mimura and A.C.C. Coolen, J. Phys. A42 (2009), 415001
'Parallel dynamics of disordered Ising spin systems on finitely connected random graphs with arbitrary degree distributions'
88. A.C.C. Coolen, A. De Martino and A. Annibale, J. Stat. Phys. 136 (2009), 1035-1067
'Constrained Markovian dynamics of random graphs'
89. A. Annibale, A.C.C. Coolen, L.P. Fernandes, F. Fraternali and J. Kleinjung, J. Phys. A: Math. Theor. 42 (2009), 485001
'Tailored graph ensembles as proxies or null models for real networks I: tools for quantifying structure'
90. M. Kelleher et al, Targ. Oncol. 10.1007 (2009), s11523-009-0116-y
'The potential of optical proteomic technologies to individualize prognosis and guide rational treatment for cancer patients'
91. P. Papadopoulos and A.C.C. Coolen, J. Phys. A: Math. Theor. 43 (2010) 025005
'Theory of agent-based market models with controlled levels of greed and anxiety'
92. A. Annibale, A.C.C. Coolen and G. Bianconi, J. Phys. A: Math. Theor. 43 (2010) 395001
'Network resilience against intelligent attacks constrained by the degree-dependent node removal cost'
93. L.P. Fernandes, A. Annibale, J. Kleinjung, A.C.C. Coolen and F. Fraternali, PLoS ONE 5 (2010) e12083
'Protein networks reveal detection bias and species consistency when analysed by information-theoretic methods'
94. P.R. Barber, S.M. Ameer-Beg, S. Pathmanathan, M. Rowley and A.C.C. Coolen, Biomedical Optics Express 1 (2010), 1148-1155
'A Bayesian method for single molecule, fluorescence burst analysis'
95. E.S. Roberts, T. Schlitt and A.C.C. Coolen, J. Phys. A 44 (2011) 275002
'Tailored graph ensembles as proxies or null models for real networks II: results on directed graphs'
96. A. Annibale and A.C.C. Coolen, Interface Focus 1 (2011) 536-556
'What you see is not what you get: how sampling affects macroscopic features of biological networks'
97. L.M. Carlin et al, Science Signaling 4 (2011) 1-11
'A Targeted siRNA Screen Identifies Regulators of Cdc42 Activity at the Natural Killer Cell Immunological Synapse'
98. A.C.C. Coolen and K. Takeda, Philosophical Magazine 92 (2011) 64 - 77
'Transfer operator analysis of the parallel dynamics of disordered Ising chains'
99. N. Shayeghi, T. Ng and A.C.C. Coolen, J. Theor. Biol. 304 (2012) 219-225
'Direct Response Analysis in cellular signalling networks'
100. E. S. Roberts and A. C. C. Coolen, Phys. Rev. E 85 (2012) 046103
'Unbiased degree-preserving randomization of directed binary networks'
101. E. Agliari, A. Annibale, A. Barra, A.C.C. Coolen and D. Tantari, J. Phys. A 46 (2013) 335101
'Immune networks: multi-tasking capabilities at medium load'
102. E. Agliari, A. Annibale, A. Barra, A.C.C. Coolen and D. Tantari, J. Phys. A 46 (2013) 415003
'Immune networks: multi-tasking capabilities near saturation'
103. E.S. Roberts and A.C.C. Coolen, J. Phys. A 47 (2014) 046103
'Entropies of tailored random graph ensembles: bipartite graphs, generalized degrees, and node neighbourhoods'
104. G. Weitsman et al, Biochem. Soc. Trans. 42 (2014) 1498-1505
'Imaging tumour heterogeneity of the consequences of a PKCa-substrate interaction in breast cancer patients'
105. S.S. Chung, A. Pandini, A. Annibale, A.C.C. Coolen, N.S.B. Thomas and F. Fraternali, Sci. Rep. 5:8540 (2015)
'Bridging topological and functional information in protein interaction networks by short loops profiling'

106. A. Mozeika and A.C.C. Coolen, J. Phys. A 48 (2015) 255001
'Spin systems on hyper cubic Bethe lattices: a Bethe-Peierls approach'
107. A. Annibale, A.C.C. Coolen and N. Planell-Morell, J. R. Soc. Interface 12 (2015), 20150573
'Quantifying noise in mass spectrometry and yeast two-hybrid protein interaction experiments'
108. J.E. Barrett and A.C.C. Coolen, Statistics in Medicine (2015), DOI: 10.1002/sim.6784
'Covariate dimension reduction for survival data via the Gaussian process latent variable model'
109. W. Wulaningsih et al, BMC Cancer (2015), DOI 10.1186/s12885-015-1928-z
'Prediagnostic serum glucose and lipids in relation to survival in breast cancer patients: a competing risk analysis'
110. A. Shalabi, M. Inoue, J. Watkins, E. De Rinaldis and A.C.C. Coolen, Stat. Meth. Med. Res. (2016), DOI: 10.1177//0962280216628901
'Bayesian clinical classification from high-dimensional data: signatures versus variability'
111. G. Weitsman et al, Oncotarget 7 (2016), 51012-51026
'HER2-HER3 dimer quantification by FLIM-FRET predicts breast cancer metastatic relapse independently of HER2 IHC status'
112. M.I. Rowley, A.C.C. Coolen, B. Vojnovic and P.R. Barber, PLOS ONE (2016), DOI: 10.1371/journal.pone.0158404
'Robust Bayesian fluorescence lifetime estimation, decay model selection and instrument response determination for low-intensity FLIM imaging'
113. V.G. Martin et al, Front. Immunol. 7 (2016) 546, DOI: 10.3389/fimmu.2016.00546
'Transitional B Cells in Early Human B Cell Development. Time to Revisit the Paradigm?'
114. A. Mozeika and A.C.C. Coolen, J. Phys. A: Math. Theor. 50 (2017) 035602
'Statistical mechanics of clonal expansion in lymphocyte networks modelled with slow and fast variables'
115. M. Rowley, H. Garmö, M. Van Hemelrijck, W. Wulaningsih, B. Grundmark, B. Zethelius, N. Hammar, G. Walldius, M. Inoue, L. Holmberg and A.C.C. Coolen, Statistics in Medicine (2017), DOI: 10.1002/sim.7246
'A latent class model for competing risks'
116. E. Agliari, A. Annibale, A. Barra, A.C.C. Coolen and D. Tantari, EPL 117 (2017) 28003
'Retrieving infinite numbers of patterns in a spin-glass model of immune networks'
117. A.C.C. Coolen, J.E.Barrett, P. Paga and C.J. Perez-Vicente, J. Phys. A: Math. Theor. 50 (2017) 375001
'Replica analysis of overfitting in regression models for time-to-event data'
118. A. Grigoriadis, P. Gazinska, T. Pai, S. Irshad, Y. Wu, R. Millis, K. Naidoo, J. Owen, C.E. Gillett, A. Tutt, A.C.C. Coolen and S.E. Pinder, J. Path. Clin. Res. (2018), DOI: 10.1002/cjp2.87
'Histological scoring of immune and stromal features in breast and axillary lymph nodes is prognostic for distant metastasis in lymph node-positive breast cancers'
119. F. Aguirre Lopez, P. Barucca, M. Fekom and A.C.C. Coolen, J. Phys. A: Math. Theor. 51 (2018) 085101
'Exactly solvable random graph ensemble with extensively many short cycles'
120. C. Haggstrom, M. Van Hemelrijck, H. Garmo, D. Robinson, P. Sattin, M. Rowley, A.C.C. Coolen and L. Holmberg, Int. J. Cancer (2018), DOI: 10.1002/ijc.31587
'Heterogeneity in risk of prostate cancer: a Swedish population-based cohort study of competing risks and Type 2 diabetes mellitus'
121. A. Mozeika and A.C.C. Coolen, Phys. Rev. E98 (2018) 042133
'Mean-field theory of Bayesian clustering'
122. M. Sheikh and A.C.C. Coolen, Journal of Classification (2019), DOI: 10.1007/s00357-019-09316-6
'Accurate Bayesian data classification without hyperparameter cross-validation'
123. M. Sheik and A.C.C. Coolen, J. Phys. A: Math. Theor. 52 (2019) 384002
'Analysis of overfitting in the regularized Cox model'
124. P.R Barber, G. Weitsman, K. Lawler, J.E.Barrett, M. Rowley, M. Rodriguez-Justo, D. Fisher, F. Gao, I.D.C. Tullis, J. Deng, L. Brown, R. Kaplan, D. Hochhauser, R. Adams, T.S. Maughan, B. Vojnovic, A.C.C. Coolen, T. Ng, J. Natl. Cancer Inst (2020) 112(9): doi: 10.1093/jnci/djz231
'HER2-HER3 heterodimer quantification by FRET-FLIM and patient subclass analysis of the COIN colorectal trial'
125. F. Aguirre López and A.C.C. Coolen, J. Phys. A: Math. Theor. 53 (2020) 065002
'Imaginary replica analysis of loopy regular random graphs'
126. A. Mozeika and A.C.C. Coolen, J. Phys. A: Math. Theor. 53 (2020) 034001
'Replica analysis of Bayesian data clustering'
127. A.C.C. Coolen, M. Sheikh, A. Mozeika, F. Aguirre-Lopez and F. Antenucci, J. Phys. A: Math. Theor. 53 (2020) 365001
'Replica analysis of overfitting in generalized linear regression models'
128. J.M. Colijn et al, Ophthalmology 20 (2020) doi: 10.1016/j.ophtha.2020.11.024
'Genetic Risk, Lifestyle, and Age-Related Macular Degeneration in Europe: The EYE-RISK Consortium'
129. S. Abdul-Jawad et al, Cancers (2021) doi: https://doi.org/10.1016/j.ccell.2021.01.001
'Acute immune signatures and their legacies in severe acute respiratory syndrome coronavirus-2 infected cancer patients'
130. F. Aguirre López and A.C.C. Coolen, J. Phys. Complex. 2 (2021) 035010
'Transitions in random graphs of fixed degrees with many short cycles'
131. A. Mozeika, M. Sheikh, F. Aguirre López, F. Antenucci and A.C.C. Coolen, Phys. Rev. E 103 (2021) 042142
'Exact results on high-dimensional linear regression via statistical physics'

REVIEW PAPERS, BOOK CHAPTERS & EDITED BOOKS

1. A.C.C. Coolen and D. Sherrington, 'Mathematical Approaches to Neural Networks' (North-Holland 1993; ed. J.G. Taylor), 293-306
'Dynamics of Attractor Neural Networks'
2. D. Sherrington, A.C.C. Coolen and S.N. Laughton, CNLS Newsletter (Los Alamos) 124 (1996), 1-12
'Macrodynamics of Disordered and Frustrated Systems'
3. Th.M. Nieuwenhuizen and A.C.C. Coolen, Nederlands Tijdschrift voor Natuurkunde 62/7 (1996), 187-190
'Breking van Ergodiciteit in Glasachtige Spinsystemen'
4. A.C.C. Coolen, in 'Concepts for Neural Networks - A Survey' (Springer 1998; eds. L.J. Landau and J.G. Taylor), 13-70
'A Beginner's Guide to the Mathematics of Neural Networks'
5. A.C.C. Coolen, in Handbook of Biological Physics Vol 4 (Elsevier Science 2001; eds. F. Moss and S. Gielen), 531-596
'Statistical mechanics of Recurrent Neural networks I: Statics'
6. A.C.C. Coolen, in Handbook of Biological Physics Vol 4 (Elsevier Science 2001; eds. F. Moss and S. Gielen), 597-662
'Statistical mechanics of Recurrent Neural networks II: Dynamics'
7. 'Disordered and Complex Systems' (AIP Conference Proceedings 553, 2001; eds. P. Sollich, A.C.C. Coolen, L.P. Hughston and R.F. Streater)
8. A.C.C. Coolen, in 'Handbook of Brain Theory and Neural Networks - 2nd Edition (2002) MIT Press (MA Arbib, Ed), 377-381
'Dynamics of recall and association'
9. G.O. Fruhwirth, L.P. Fernandes, G. Weitsman, G. Patel, M. Kelleher, K. Lawler, A. Brock, S.P. Poland, Dr. D.R. Matthews, G. Keri, P.R. Barber, B. Vojnovic, S.M. Ameer-Beg, A.C.C. Coolen, F. Fraternali, T. Ng, Chem. Phys. Chem 12 (2011) 442-461
'How Förster Resonance Energy Transfer Imaging Improves the Understanding of Protein Interaction Networks in Cancer Biology'
10. A.C.C. Coolen, F. Fraternali, A. Annibale, L.P. Fernandes, and J. Kleinjung, in Handbook of Statistical Systems Biology (Wiley; M Stumpf, DJ Balding and M Girolami, Eds) (2011) 309-330
'Modelling biological networks via tailored random graphs'

PUBLICATIONS IN CONFERENCE PROCEEDINGS

1. A.C.C. Coolen, J.J. Denier van der Gon and Th.W. Ruijgrok, 'Neural Networks from Models to Applications' (IDSET Paris 1989; ed. L. Personnaz and G. Dreyfus), 269-278
'An Exact Dynamical Solution for Generalised Hopfield Networks'
2. C.C.A.M. Gielen and A.C.C. Coolen, 'Neural Networks from Models to Applications' (IDSET Paris 1989; ed. L. Personnaz and G. Dreyfus), 269-278
'Self-Organisation in Neural Networks Underlying the Coordination of Movements'
3. H.J.J. Jonker, A.C.C. Coolen and J.J. Denier van der Gon, 'Artificial Neural Networks' (IEE London 1989), 23-26
'Linear Interpolation with Binary Neurons'
4. A.C.C. Coolen, J.J. Denier van der Gon and Th.W. Ruijgrok, 'Artificial Neural Networks' (IEE London 1989), 238-241
'Evolution Equations for Neural Networks with Arbitrary Spatial Structure'
5. A.C.C. Coolen and J.J. Denier van der Gon, 'Intelligent Autonomous Systems II' (IAS Amsterdam 1989; ed. T. Kanade, F. Groen and L. Hertzberger), 89-99
'Evolution Equations for Neural Networks with Arbitrary Spatial Structure: The Onset of Order'
6. J.J. Denier van der Gon, A.C.C. Coolen, C.J. Erkelens and H.J.J. Jonker, 'Multiple Muscle Systems' (Springer New York 1990; ed. J. Winters and S. Woo), 336-342
'Self-Organizing Neural Mechanisms Possibly Responsible for Movement Coordination'
7. A.C.C. Coolen, 'Statistical Mechanics of Neural Networks' (Springer Berlin 1990; ed. L. Garrido), 381-396
'Ising Spin Neural Networks with Spatial Structure'
8. M. Braamhof (presently: Abramoff), A.C.C. Coolen, G. Wieneke and P. Janssen, 'Speech Motor Control and Stuttering' (Elsevier Science Publ. 1991; ed. Peters, Hulstijn and Starkweather), 181-188
'Can Neural Networks Explain Dysfluent Speech ?'
9. W. Wiegnerinck and A.C.C. Coolen, 'Artificial Neural Networks 2' (Elsevier Science Publ. 1992; ed. I. Aleksander and J. Taylor), 277-280
'The Connections of Large Perceptrons'
10. A.C.C. Coolen, A.J. Noest and G.B. de Vries, 'Neural Networks: from Biology to High Energy Physics II' (World Scientific 1993; ed. O. Benhar, C. Bosio, P. Del Giudice and M. Grandolfo), 149-161
'The Modeling of Chemical Modulation in Neural Networks'
11. A.C.C. Coolen and D. Sherrington, 'ICANN '93' (Springer-Verlag 1993; ed. S. Gielen and B. Kappen), 722-725
'Equilibrium Statistical Mechanics of Non-symmetric Neural Networks'

12. A.C.C. Coolen, R.W. Penney and D. Sherrington, ‘Neural Information Processing Systems 6’ (Morgan Kaufmann 1994; ed. J.D. Cowan, G. Tesauro and J. Alspector), 447-454
‘Coupled Dynamics of Fast Neurons and Slow Interactions’
13. D. Sherrington and A.C.C. Coolen, ‘25 Years of Non-Equilibrium Statistical Mechanics’, Proc. Sitges XIII, (Springer Lecture Notes in Physics 1995; ed. J. Brey, J. Marro, J. Rubi and M. San Miguel), 161-176
‘Evolution of Order Parameters in Disordered Spin Systems - a Closure Procedure’
14. D. Sherrington, R.W. Penney and A.C.C. Coolen. ‘Chaos and Complexity’, Proc. Blois 1993, (Editions Frontiers 1995; eds. Tran Thanh Van, Berge, Conte and Dubois), 229-232
‘Complexity in the Coupled Dynamics of Fast Neurons and Slow Synapses’
15. A.C.C. Coolen, S.N. Laughton and D. Sherrington, ‘Neural Information Processing Systems 8’ (MIT Press 1996; ed. D.S. Touretzky, M.C. Moser and M.E. Hasselmo), 253-259
‘Modern Analytic Techniques to Solve the Dynamics of Recurrent Neural Networks’
16. D. Sherrington, A.C.C. Coolen and S.N. Laughton, ‘StatPhys 19’, (World Scientific 1996; ed. H. Bailin), 401-409
‘Macrodynamics of Disordered and Frustrated Systems’
17. A.C.C. Coolen and L. Viana, ‘Biological and Artificial Computation: From Neuroscience to Technology’, (Springer 1997; eds. J. Mira, R. Moreno-Diaz and J. Cabestany), 257-264
‘Competition Between Feed-Forward and Lateral Information Processing in Layered Neural Networks’
18. A.C.C. Coolen and D. Saad, ‘On-Line Learning in Neural Networks’, (Cambridge U.P. 1998; ed. D. Saad), 303-343
‘Dynamics of Supervised Learning with Restricted Training Sets’
19. G. Jongen, J. Anemüller, D. Bollé and A.C.C. Coolen, ‘StatPhys 21’, (Springer 1998; eds. A. Gervois, M. Gingold, D. Jagolnitzer), 12-12
‘Networks of fast Oscillators with Slow Dynamic Couplings’
20. N.S. Skantzos, C.F. Beckmann and A.C.C. Coolen, ‘Neural Information Processing Systems 11’ (MIT Press 1999; ed. M.S. Kearns, S.A. Solla, D.A. Cohn), 337-343
‘Discontinuous Recall Transitions Induced by Competition Between Short- and Long-Range Interactions in Recurrent Networks’
21. H.C. Rae, P.K. Sollich and A.C.C. Coolen, ‘Neural Information Processing Systems 11’ (MIT Press 1999; ed. M.S. Kearns, S.A. Solla, D.A. Cohn), 316-322
‘On-Line Learning with Restricted Training Sets: Exact Solution as a Benchmark for General Theories’
22. A. Düring, A.C.C. Coolen and D. Sherrington, ‘Neural Information Processing Systems 11’ (MIT Press 1999; ed. M.S. Kearns, S.A. Solla, D.A. Cohn), 211-217
‘Phase Diagram and Storage Capacity of Sequence Storing Neural Networks’
23. A.C.C. Coolen and D. Saad, ‘Neural Information Processing Systems 11’ (MIT Press 1999; ed. M.S. Kearns, S.A. Solla, D.A. Cohn), 197-203
‘Dynamics of Supervised Learning with Restricted Training Sets’
24. L. Viana, A. Castellanos and A.C.C. Coolen, ‘Proc. IWANN ’99 - Lect. Notes. in Comp. Sci. 1606’ (Springer 1999; ed. J. Mira), 393-400
‘Finite Size Effects in Neural Networks’
25. A.C.C. Coolen and C.W.H. Mace, ‘Neural Information Processing Systems 12’ (MIT Press 2000; ed. M.S. S.A. Solla, T.K. Leen and K.R. Müller), 237-243
‘Dynamics of Supervised Learning with Restricted Training Sets and Noisy Teachers’
26. A.C.C. Coolen and J. van Mourik, ‘Disordered and Complex Systems’ (AIP Press 2001; ed. P. Sollich, A.C.C. Coolen, L.P. Hughston and R.F. Streater), 55-60
‘Cluster Derivation of the Parisi Scheme for Disordered Systems’
27. N.S. Skantzos and A.C.C. Coolen, ‘Disordered and Complex Systems’ (AIP Press 2001; ed. P. Sollich, A.C.C. Coolen, L.P. Hughston and R.F. Streater), 101-106
‘Random Field Ising Chains and Neural Networks with Synchronous Dynamics’
28. N.S. Skantzos, J. van Mourik and A.C.C. Coolen, ‘StatPhys 21, IUPAP 21st Int. Conf. Stat. Phys.’ (2001; eds. D. Lopez, M. Narbosa and A. Robledo), 290-291
‘A Solvable Model for Secondary Structure Formation in Random Hetero-Polymers’
29. K. Mimura and A.C.C. Coolen, ‘Proc. of 2009 Intl. Symp. Info. Theory (ISIT)’ (2009), 1829
‘Generating Functional Analysis of LDGM Channel Coding with Many Short Loops’
30. A.C.C. Coolen and S. Rabello, J.Phys. Conf. Series 197 (2009), 012006
‘Generating functional analysis of complex formation and dissociation in large protein interaction networks’
31. C. Grácio, A.C.C. Coolen and A. Annibale, Nonlinear maps and their applications, Springer Proc. Math. Stat., 57, Springer, New York (2014), 8194
‘Cycle statistics in complex networks and Ihara’s zeta function’
32. E.S. Roberts, A. Annibale and A.C.C. Coolen, Nonlinear maps and their applications, Springer Proc. Math. Stat., 57, Springer, New York (2014), 25-34
‘Controlled Markovian dynamics of graphs: unbiased generation of random graphs with prescribed topological properties’

33. E.S. Roberts and A.C.C. Coolen, ESAIM: Proceedings and Surveys 47 (2014), 97-115
'Random graph ensembles with many short loops'
34. A.C.C. Coolen, J.Phys. Conf. Series 699 (2016), 012022
'Replica methods for loopy sparse random graphs'