

Isaac MEILIJSON, Ph.D.

LIST OF PUBLICATIONS

1. I. Meilijson
A note on sequential multiple decision procedures. *Ann. Math. Statist.* 40, No. 2, 653-657 (1969).
2. I. Meilijson
Limiting properties of the Mean Residual Lifetime function. *Ann. Math. Statist.* 43, No. 1, 354-357 (1972).
3. L.E. Dubins and I. Meilijson
On stability for optimization problems. *Ann. Prob.* 2, No. 2, 243-255 (1974).
4. I. Meilijson
The average of the values of a function at random points. *Isr. J. Math.* 15, No. 2, 193-203 (1973).
5. I. Meilijson
Mixing properties of a class of Skew Products. *Isr. J. Math.* 19, No. 3, 266-269 (1974).
6. I. Meilijson
A probabilistic approach to Renewal Theory. Lecture Notes, *Afdeling Mathematische Besliskunde B W 53/75*, Mathematische Centrum, Amsterdam (1975).
7. I. Meilijson and G. Weiss
Multiple feedback at a single server station. *Stoch. Proc. and Their Appl.* 5, 195-205 (1977).
8. I. Meilijson and U. Yechiali
On optimal right of way policies at a single server station when insertion of idle times is permitted. *Stoch. Proc. and Their Appl.* 6, 25-32 (1977).
9. I. Meilijson and A. Nadas
Convex majorization with an application to the length of critical paths. *J. Appl. Prob.* 16, 671-677 (1979).
10. A.G. Konheim, I. Meilijson and A. Melkman
Processor sharing of two parallel lines. *J. Appl. Prob.* 18, 952-756 (1981).
11. I. Meilijson
Estimation of the lifetime distribution of the parts from the autopsy statistics of the machine. *J. Appl. Prob.* 18, 829-836 (1981).
12. I. Meilijson
There exists no ultimate solution to Skorokhod's problem. Sem. Prob. Strasb. XVI, *Springer Lecture Notes in Mathematics* 920, 392-399 (1980/81).
13. I. Meilijson
On the Azema-Yor stopping time. Sem. Prob. Strasb. XVII, *Springer Lecture Notes in Mathematics* 986, 225-226 (1981/82).

14. P.J. Holewijn and I. Meilijson
Note on the Central Limit Theorem for stationary processes. Sem. Prob. Strasb. XVII, *Springer Lecture Notes in Mathematics* 986, 240-242 (1981/82).
15. M. Landsberger and I. Meilijson
Incentive generating state dependent penalty system. The case of Income Tax evasion. *The Journal of Public Economics* 19, 333-352 (1982).
16. I. Meilijson, Newborn, Tenenbein and Yechiali
Number of matches and matched people in the Birthday Problem. *Communications in Statistics* 11(3), 361-370 (1982).
17. I. Meilijson and A. Tamir
Minimizing flow time on identical processors with variable processing rate. *Operations Research* 32, No. 2, 440-448 (1984).
18. M. Keane, A.G. Konheim and I. Meilijson
The Organ Pipe permutation. *SIAM Journal on Computing* 13, No. 3, 541-540 (1984).
19. M. Landsberger and I. Meilijson
Intertemporal price discrimination and sales strategy under Imperfect Information. *Rand Journal of Economics* 16, No. 3, 424-430 (1985).
20. I. Meilijson, S. Meilijson, H. Szor
A comment on Adreasen and Grove. Letters to the Editor, *Schizophrenia Bulletin* 14, No. 1, 17-18 (1988).
21. I. Meilijson and D. Gilat
A simple proof of a theorem of Blackwell and Dubins on the maximum of a uniformly integrable Martingale. Sem. Prob. Strasb. XXII, *Springer Lecture Notes in Mathematics* 1321, 214-216 (1988).
22. I. Meilijson
A fast improvement to the EM algorithm on its own terms. *JRSS Series B* 51, No.1, 127-138 (1989).
23. M. Landsberger, I. Meilijson
Demand for risky financial assets: a portfolio analysis. *Journal of Economic Theory* 50, No. 1, 204-213 (1990).
24. M. Landsberger, I. Meilijson
A tale of two tails: an alternative characterization of comparative risk. *Journal of Risk and Uncertainty* 3, 65-82 (1990).
25. M. Landsberger, I. Meilijson
Lotteries, insurance and star-shaped utility functions. *Journal of Economic Theory* 52, 1-17 (1990).
26. I. Meilijson
Sharp bounds on the largest of some linear combinations of random variables with given marginal distributions. *Probability in the Engineering and Informational Sciences* 5, 1-14 (1991).

27. D. Lavee, I. Meilijson, U.N. Safriel
For how long do trans-Saharan migrants stop over at an oasis? *Ornis Scandinavica* 22, 33-44 (1991).
28. G. Mazor, Z. Agur, I. Meilijson
Maturation of the humoral immune response as an optimization problem. *Proceedings of the Royal Society of London, Series B: Biological Sciences* 245 (1313), 147-150 (1991).
29. I. Meilijson
The expected value of some functions of the convex hull of a random set of points sampled in R^d . *Isr. J. of Math.* 72, 341-352 (1991).
30. Z. Agur, G. Mazor, I. Meilijson
Mimicking the strategy of the immune system: insight gained from mathematics. *Theoretical and Experimental Insights into Immunology*, ed. A. Perlson, Springer Verlag Series on Cell Biology, 323-332. Springer-Verlag Berlin Heidelberg 1992.
31. I. Meilijson, E. Ruppin
History-dependent attractor neural networks. *Network* 4, 195-221 (1993).
32. M. Landsberger, I. Meilijson
Mean preserving portfolio dominance. *The Review of Economic Studies* 60, 475-485 (1993).
33. M. Landsberger, I. Meilijson
Monopoly insurance under adverse selection when agents differ in risk aversion. *Journal of Economic Theory* 63, 392-407 (1994).
34. M. Landsberger, I. Meilijson
The generating process and an extension of Jewitt's location independent risk concept. *Management Science* 40, 662-669 (1994).
35. M. Landsberger, I. Meilijson
Co-monotone allocations, Bickel-Lehmann dispersion and the Arrow-Pratt measure of risk aversion. *Annals of Operations Research* 52, 97-106 (1994).
36. I. Meilijson
Competing Risks on Coherent Reliability Systems. Estimation in the parametric case. *J.A.S.A.*, (1994).
37. I. Meilijson, E. Ruppin
Optimal signalling in attractor neural networks. *Network: Computation in Neural Systems* 5, 277-298 (1994).
38. I. Meilijson, E. Ruppin, M. Sipper
A single-iteration threshold Hamming network. *IEEE Trans. of NN* 6, 261-266 (1995).
39. T. Bedford, I. Meilijson
The marginal distributions of lifetime variables which right censor each other. *IMS Lecture Notes Monograph Series*, Volume 27, 11-23 (1995)
40. M. Abeles, H. Bergman, I. Gat, I. Meilijson, E. Seidemann, N. Tishby, E. Vaadia
Cortical activity flips among quasi-stationary states. *Proceedings of the National Academy of Sciences USA (Neurobiology)* 92, 8616-8620 (1995)

41. I. Meilijson, E. Ruppin
Optimal firing in sparsely-connected low-activity Attractor Networks. *Biological Cybernetics: Communication and Control in Organisms and Automata*, 74, 479–485 (1996).
42. E. Seidemann, I. Meilijson, M. Abeles, H. Bergman, E. Vaadia
Simultaneously recorded single units in the Frontal Cortex go through sequences of discrete and stable states in monkeys performing a Delayed Localization Task. *The Journal of Neuroscience*, 16(2), 752-768 (1996).
43. M. Landsberger, I. Meilijson
Extraction of surplus under adverse selection: the case of insurance markets. *Journal of Economic Theory*, 69, 234-239 (1996).
44. T. Bedford, I. Meilijson
A new approach to censored lifetime variables. *Reliability Engineering and System Safety*, 51, 181-187 (1996).
45. I. Meilijson
Bayesian updatings in Hopfield-like associative memory models.
In *Statistics, Probability and Game Theory, Papers in honor of David Blackwell*, IMS Lecture Notes Monograph Series, Volume 30, (1996).
46. K. K. Aase, I. Meilijson
The values of insurance companies under different uncertain portfolios.
The Geneva Papers on Risk and Insurance Theory, 21, 147-158 (1996).
47. T. Bedford, I. Meilijson
A characterisation of marginal distributions of (possibly dependent) lifetime variables which right censor each other.
The Annals of Statistics, 25,1622-1645, (1997).
48. A. Chateauneuf, M. Cohen, I. Meilijson
New tools to better model behavior under risk and uncertainty: an overview.
Finance, 18, 25-46, 1997.
49. G. Chechik, I. Meilijson, E. Ruppin
Synaptic pruning in development: a computational account.
Neural Computation, 10(7), 1759-1777, 1998.
50. I. Meilijson, E. Ruppin, M. Sipper
Fast computation in Hamming and Hopfield networks.
In *Neural Network Systems Techniques and Applications*, (C.T. Leonedes, ed.), Academic Press: San Diego, CA, 1998.
51. M. Landsberger, I. Meilijson
A general model of insurance under adverse selection.
Economic Theory, 14(2), 331-352, 1999.
52. G. Chechik, I. Meilijson, E. Ruppin
Neuronal regulation: a mechanism for synaptic pruning during brain maturation. *Neural Computation*, 11(8), 2061-2080, 1999.

53. G. Chechik, I. Meilijson, E. Ruppin
Effective learning with ineffective Hebbian learning rules. *Neural Computation*, 13(4), (2001), 817-840.
54. N. Levy, D. Horn, I. Meilijson, E. Ruppin
Distributed synchrony in a cell assembly of spiking neurons. *Neural Networks*, 14(6/7), (2001).
55. Y. Niv, D. Yoel, I. Meilijson, E. Ruppin
Evolution of reinforcement learning in foraging bees. *Adaptive Behavior*, **10(1)**, 5–24, 2002.
56. I. Meilijson
The time to a given drawdown in Brownian Motion. Séminaire de Probabilités XXXVII., *Springer Lecture Notes in Mathematics 1832*, 94–108, 2003.
57. R. Aharonov, L. Segev, I. Meilijson, E. Ruppin
Localization of function via lesion analysis. *Neural Computation*, **15(4)**, 885–913, 2003.
58. L. Segev, R. Aharonov, I. Meilijson, E. Ruppin
High-dimensional analysis of autonomous agents. *Artificial Life*, **9(1)**, 385–404, 2003.
59. I. Meilijson
Stochastic orders and stopping times in Brownian Motion. In *From Classical to Modern Probability*, CIMPA School in Probability, Temuco, Chile. *Progress in Probability*, **54**, 207–219. Birkhäuser Verlag: Basel, 2003.
60. A. Keinan, I. Meilijson, E. Ruppin
Controlled analysis of neurocontrollers with informational lesioning. *Phil. Trans. R. Soc. Lond.* **A(361)**, 2003, 2123–2144.
61. A. Chateauneuf, M. Cohen, I. Meilijson
Four notions of mean-preserving increase in risk, risk attitudes and applications to the Rank-dependent Expected Utility model. *Journal of Mathematical Economics*, **40**, 547–571, 2003.
62. A. Chateauneuf, M. Cohen, I. Meilijson
A characterization of monotone risk aversion in the rank-dependent expected utility model. *Economic Theory*, **25(3)**, April 2003.
63. A. Kaufman, A. Keinan, C. Hilgetag, I. Meilijson, E. Ruppin
Fair allocation of function via multi-lesion analysis. To appear, *Neuroinformatics*, invited paper, 2003.
64. A. Keinan, B. Sandbank, C. Hilgetag, I. Meilijson, E. Ruppin
Fair attribution of functional contribution in artificial and biological networks. *Neural Computation*, **16(9)**, 1889–1915, 2004.
65. I. Meilijson
Risk aversion. In *Encyclopedia of Actuarial Science*, J.L. Teugels and B. Sundt (eds.), **3**, 1456–1459. John Wiley & Sons: Chichester, 2004.
66. I. Meilijson
Utility theory. In *Encyclopedia of Actuarial Science*, J.L. Teugels and B. Sundt (eds.), **3**, 1725–1726. John Wiley & Sons: Chichester, 2004.

67. A. Kaufman, A. Keinan, M. Kupiec, I. Meilijson, E. Ruppin
Quantitative analysis of genetic and neuronal multi-perturbation experiments. *PLoS Computational Biology*, **1(6)**, e64, 500-506, 2005.
68. A. Keinan, B. Sandbank, C. Hilgetag, I. Meilijson, E. Ruppin
Axiomatic scalable neuroncontroller analysis via the Shapley value. *Artificial Life*. **12(3)**, 333–352, 2006.
69. E. Borenstein, I. Meilijson, E. Ruppin
The Effect of Phenotypic Plasticity on Evolution in Multi-peaked Fitness Landscapes. *Journal of Evolutionary Biology*, **19(5)**, 1555–70, 2006.
70. A. Kaufman, G. Dror, I. Meilijson, E. Ruppin
Gene expression of C elegans neurons carries information on their synaptic connectivity. *PLoS Computational Biology*, **2(12)**, e167 doi:10.1371, 2006.
71. D. Deutscher, I. Meilijson, M. Kupiec, E. Ruppin
Multiple knockouts analysis of genetic robustness in the yeast metabolic network. *Nature Genetics* **38(9)**, 993-998, 2006.

PUBLICATIONS IN PROCEEDINGS OF CONFERENCES

1. I. Meilijson, E. Ruppin, M. Sipper
Single-iteration threshold Hamming networks.
In *Advances in Neural Information Processing Systems 5*, S.J. Hanson, J.D. Cowan and C.L. Giles (Eds.), 564-571. Morgan Kaufman Publishers, 1993.
2. I. Meilijson, E. Ruppin
History-dependent attractor neural networks.
In *Advances in Neural Information Processing Systems 5*, S.J. Hanson, J.D. Cowan and C.L. Giles (Eds.), 572-579. Morgan Kaufman Publishers, 1993.
3. I. Meilijson, E. Ruppin
Optimal signalling in attractor neural networks.
In *Advances in Neural Information Processing Systems 6*, J.D. Cowan, G. Tesauro and J. Alspector (Eds.), 485-492. Morgan Kaufman Publishers, 1994.
4. G. Chechik, I. Meilijson, E. Ruppin
Neuronal regulation: a biologically plausible mechanism for efficient synaptic pruning in development.
VIIth Annual Computational Neuroscience Meeting (CNS98), Santa Barbara, CA, July 1998.
Neurocomputing, **26–27**, 389–394, June 1999.
5. G. Chechik, I. Meilijson, E. Ruppin
Synaptic pruning in development: a novel account in neural terms.
In *Computational Neuroscience Trends in Research 1998*, (ed. James M. Bower), 149-154, Plenum Press NY, 1998.
6. G. Chechik, I. Meilijson, E. Ruppin
Neuronal regulation implements efficient synaptic pruning.

- IEEE Conference on Neural Information Processing Systems, Denver, 1998. B In *Advances in Neural Information Processing Systems*, **12**, M. Kearns, S. Solla, D. Cohn (eds.), MA: MIT Press 1999.
7. G. Chechik, I. Meilijson, E. Ruppin
Neuronal normalization provides effective learning via ineffective learning rules.
Eighth Annual Computational Neuroscience Meeting (CNS99), Pittsburgh, Pennsylvania, July 1999. *Neurocomputing*, **32**, 345–351, June 2000.
 8. G. Chechik, I. Meilijson, E. Ruppin
Effective learning requires neuronal remodeling of Hebbian synapses.
IEEE Conference on Neural Information Processing Systems, December, 1999. In *Advances in Neural Information Processing Systems*, **12**, S. Solla, T. Leen, K. R. Mullen (eds.), 96–102, MA: MIT Press 2000.
 9. R. Aharonov, I. Meilijson, E. Ruppin
Who does what: a novel algorithm to determine function localization.
IEEE Conference on Neural Information Processing Systems, December, 2000. In *Advances in Neural Information Processing Systems*, **12**, T. Leen, T. Dietterich, V. Tresp (eds.), 8–15. Cambridge, MA: MIT Press 2001.
 10. Y. Niv, D. Joel, I. Meilijson, E. Ruppin
Evolution of reinforcement learning in uncertain environments: emergence of risk-aversion and matching.
European Conference of Artificial Life, Prague, September, 2001. In *Advances in Artificial Life*, J. Kelemen and P. Sosik (eds.), Lecture Notes in Computer Science 2159, 252–261, Springer-Verlag, Heidelberg 2001.
 11. R. Aharonov, I. Meilijson, E. Ruppin
Understanding the agent’s brain: a quantitative approach.
European Conference of Artificial Life, Prague, September, 2001. In *Advances in Artificial Life*, J. Kelemen and P. Sosik (eds.), Lecture Notes in Computer Science 2159, 216–225, Springer-Verlag, Heidelberg 2001.
 12. R. Aharonov, L. Segev, I. Meilijson, E. Ruppin
Localization of function in neurocontrollers.
Society of Adaptive Behavior (SAB), Edinburgh, August 2002.
 13. L. Segev, R. Aharonov, I. Meilijson, E. Ruppin
High-dimensional analysis of evolutionary neurocontrollers.
EPSRC/BBSRC, International Workshop on Biologically-inspired Robotics. Bristol, August 2002.
 14. A. Keinan, K. Hilgetag, I. Meilijson, E. Ruppin
Causal localization of neural function: the Shapley value method.
Computational Neuroscience meeting (CN03), Alicante, Spain, July 2003.
 15. D. Deutscher, I. Meilijson and E. Ruppin
Multiple knockouts analysis of genetic robustness in the yeast metabolic network.
Poster abstract track, ISMB 2005.