

**Computational Medicine Team Publications in press since 2002  
[updated 23 October 2007] [This page in pdf format]**

**2007**

60. Tan, K., et al Integrated data-driven approaches to uncover transcription regulatory networks in mammalian cells *Genomics*. [To appear]
59. Eriksson, O., Brinne, B., Zhou, Y., Björkegren, J., J. Tegnér, A delay piecewise linear systems approach to modelling cell cycle regulation *IET Systems Biology* [To appear]
58. Wagsater, D., Björk, H., Zhu, C., Björkegren, J., Valen, G., Hamsten, A., P. Eriksson, ADAMTS-4 and -8 are inflammatory regulated enzymes expressed in macrophage-rich areas of human atherosclerotic plaques *Atherosclerosis*. Jun 30 doi:10.1016/j.atherosclerosis.2007.05.018 [pdf]
57. Boquist, S., Ruotolo, G. Skoglund-Andersson, C. Tang, R. Björkegren, J., Bond, MG., de Faire, U., Brismar, K., A. Hamsten. Correlation of serum IGF-I and IGFBP-1 and -3 to cardiovascular risk indicators and early carotid atherosclerosis in healthy middle-aged men. *Clinical Endocrinology (Oxf)*. doi: 10.1111/j.1365-2265.2007.02998.x [pdf here].
56. Kovacs, A., Tornvall, P., Nilsson, R., Tegnér, J., Hamsten, A., and J. Björkegren, Human C-reactive protein slows atherosclerosis development in a mouse model with human-like hypercholesterolemia. *Proceedings of National Academy of Science* Aug, 2007 [pdf] [Supp1] [Supp2]
55. Edin, F., Klingberg, T., J. Stödberg, T. Tegnér, Fronto-parietal Connection Asymmetry Regulates Working Memory Distractibility. *Journal of Integrative Neuroscience* [To appear]
54. Peña, J. M.. Reading Dependencies from Polytree-Like Bayesian Networks. In *Proceedings of the 23rd Conference on Uncertainty in Artificial Intelligence (UAI)*, 303-309, 2007. [pdf here].
53. Skogsberg, J., Dicker, A., Rydén, M., Åström, G., Nilsson, R., Mairal, A., Langin, D., Alberts, P., Walum, E., Tegnér, J., Hamsten, A., Arner, P., and J. Björkegren. Evidence that plasma low density lipoproteins containing apolipoprotein B100 regulate lipolysis in adipocytes. [To appear]

52. Sheemer, I., Brinne, B., Tegnér, J., and J. Grillner, S. Cable-In-Cable Model As A Novel Means For Spine-To-Soma Signal Transduction., PLoS Computational Biology [To appear]
51. Björkegren J., and J. Tegnér, Systembiologin formar ny preventiv hälsovård Läkartidningen, nr 42, volym 104, 3036, 2007 [pdf here]
50. Björkegren J., and J. Tegnér, Systembiologin ger möjlighet att förstå komplex sjukdom i detalj: Åderförkalkning ett exempel Läkartidningen, nr 42, volym 104, 3042-3045, 2007 [pdf here]
49. Nilsson, R., Peña, J. M., Björkegren J., and J. Tegnér, Detecting Multivariate Differentially Expressed Genes, BMC Bioinformatics 2007, 8:150 doi:10.1186/1471-2105-8-150 [pdf here] [Supp1] [Supp2] [Supp3]
48. Nilsson, R., Peña, J. M., Björkegren J., and J. Tegnér, Consistent feature selection for pattern recognition in polynomial time, Journal of Machine Learning Research, 8(March): 589-612, 2007 [pdf here]
47. Tegnér, J., Nilsson, R., Bajic, V.B., Björkegren, J. and T. Ravasi, Systems biology of innate immunity , Cellular Immunology (2006), doi:10.1016/j.cellimm.2007.01.010 [pdf here]
46. Macoveanu, J., Klingberg, T., and Tegnér, J. Neuronal population firing rates predicts distance dependent distractor effects on mnemonic accuracy in a visuo-spatial working memory task, Biological Cybernetics vol 96: 407-419, 2007 [pdf here]
45. Peña, J. M. Approximate counting of graphical models via MCMC. In Proceedings of the 11th International Conference on Artificial Intelligence and Statistics, AISTATS, [pdf here]
44. Tegnér, J, Skogsberg, J. and Björkegren, J.. Multi-organ whole-genome measurements and reverse engineering to uncover gene networks underlying complex traits. Journal of Lipid Research vol 48, 267-277, 2007, [pdf here]
43. Tegnér, J. and Björkegren, J. Perturbations to uncover gene networks. Trends in Genetics, Jan;23(1):34-41, 2007. [pdf here].
42. Edin, F., Macoveanu, J., Olesen, P., Tegnér, J., and Klingberg, T. Stronger synaptic connectivity as a mechanism behind development of working memory-related brain activity during childhood. Journal of Cognitive Neuroscience, [pdf here]
41. Peña, J. M., Björkegren, J. and Tegnér, J. "Learning and validating Bayesian network models of genetic regulatory networks. Advances in Probabilistic

Graphical Models, 359-376, Series: Studies in Fuzziness and soft Computing, Vol. 213., Lucas, Peter; Gámez, José A.; Salmerón, Antonio (Eds.) SpringerVerlag. 2007 [pdf here]

40. Peña, J. M., Nilsson, R., Björkegren, J. and Tegnér, J. Towards scalable and Data Efficient Learning of Markov Boundaries, International Journal of Approximate Reasoning, [pdf here]

39. Olesen, P., Macoveanu, J., Tegnér, J., and Klingberg, T Development of Brain Activity Related to Working Memory and Distraction. Cerebral Cortex May; 17: 1047-1054, 2007 [pdf here]

## 2006

38. Pena, J., Nilsson, R, Björkegren, J. and Tegnér, J. Reading Dependencies from the Minimal Undirected Independence Map of a Graphoid that Satisfies Weak Transitivity, EWGP, 247-254, 2006 [pdf here]

37. Nilsson, R., Pena, J., Björkegren, J. and Tegnér, J. Evaluating Feature Selection for SVMs in High Dimensions. Lecture Notes in Computer Science, 719-726, Springer, 2006 [pdf here]

36. Pena, J., Nilsson, R, Björkegren, J. and Tegnér, J. Identifying Relevant Nodes without Learning the Model , UAI, 367-374, 2006 [pdf here]

35. Macoveanu, J., Klingberg, T., and J. Tegnér A biophysical model of multiple-item working memory: a computational and neuromaging study. Neuroscience, Sep 1;141(3):1611-1618, 2006 [pdf here]

34. Roland Nilsson, Vladimir B. Bajic, Shintaro Katayama, Harukazu Suzuki, Diego di Bernardo, Johan Björkegren, Matthew J. Sweet, Piero Carninci, Yoshihide Hayashizaki, David A. Hume., Jesper Tegner, and Timothy Ravasi, Transcriptional Network Dynamics in Macrophage Activation, Genomics, Aug;88(2):133-142, 2006 [pdf here] [on-line supplement]

33. The PROCARDIS Consortium. Genome-wide mapping of susceptibility to coronary artery disease identifies a novel replicated locus on chromosome 17. May 19, 2006, PLoS Genetics. [pdf here]

32. Björkegren J. Dual roles of apolipoprotein CI in the formation of atherogenic remnants. Curr Atheroscler Rep. Jan;8(1):1-2. 2006 [pdf here]

31. Hallen, K., Björkegren J., and Tegnér, J. Detection of compound mode of action by computational integration of whole-genome measurements and

genetic perturbations, BMC Bioinformatics 7:51. doi:10.1186/1471-2105-7-51, 2006 [pdf here]

## 2005

30. Nilsson R, Björkegren J, Tegnér J: A flexible implementation for support vector machines. The Mathematica Journal, Vol 10, 114-127, 2005 [pdf here]

29. Peña, J. M., Björkegren, J. and Tegnér, J. (2005). Scalable, Efficient and Correct Learning of Markov Boundaries under the Faithfulness Assumption. Lecture Notes in Computer Science, Symbolic and Quantitative Approaches to Reasoning with Uncertainty 3571, 136-147. [pdf here]

28. The Phantom3 Consortium (Nilsson & Tegnér), The transcriptional landscape of the mammalian genome, Science. 2005 Sep 2;309 (5740):1559-63. [pdf here]

27. Kovacs A, Henriksson P, Wallén H, Björkegren J, Tornvall P. Hormonal regulation of circulating C-reactive protein concentrations. Clinical Chemistry, January 2005. [pdf here]

26. Anders Hamsten, Angela Silveira, Susanna Boquist, Rong Tang, M. Gene Bond, Ulf de Faire, Björkegren J. The apolipoprotein CI content of triglyceride-rich lipoproteins independently predicts early atherosclerosis in healthy middle-aged men . Journal of the American College of Cardiology, Vol. 45, Issue 7, 5 April 2005. [pdf here]

25. Peña, J. M., Lozano, J. A. and Larrañaga, P. Globally Multimodal Problem Optimization Via an Estimation of Distribution Algorithm Based on Unsupervised Learning of Bayesian Networks. Evolutionary Computation, 13 (1), 43-66, 2005. [pdf here]

24. Peña, J. M., Björkegren, J. and Tegnér, J. (2005). Growing Bayesian Network Models of Gene Networks from Seed Genes. Bioinformatics, 21, ii224-ii229. [pdf here]

23. Peña, J. M., Björkegren, J. and Tegnér, J. (2005). Learning Dynamic Bayesian Network Models Via Cross-Validation. Pattern Recognition Letters, 26 (14), 2295-2308 [pdf here]

## 2004

22. Nilsson R, Björkegren J, Tegnér: A powerful differential expression test for probe-level oligonucleotide microarray data. In proc. of 2nd IEEE International Workshop on Genomic Signal Processing and Statistics, pp. 10-14, 2004 [pdf here]

21. Eriksson, O., Zhou, Y., and J. Tegnér. Modeling cellular networks - robust switching in the cell cycle ensures a piecewise linear reduction of a complex network model, *Decision and Control, IEEE* , Vol 1 117-123, 2004 [pdf here]
20. The PROCARDIS Consortium (Björkegren J). A trio family study showing association of the lymphotoxin-alpha N26 (804A) allele with coronary artery disease. *Eur J Hum Genet.* 2004 Sep;12(9):770-4. (IF 3.7) [pdf here]
19. Larsson SL, Skogsberg J, Björkegren J. The low Density lipoprotein receptor prevents secretion of dense apoB100-containing lipoproteins from the liver. *J Biol Chem.* 279 (2): 831-836, 2004. [pdf here]
18. Peña, J. M. Learning and Validating Bayesian Network Models of Genetic Regulatory Networks. In *Proceedings of the Second European Workshop on Probabilistic Graphical Models, PGM*, 161-168, 2004. [pdf here]
17. Peña, J. M., Kocka, T. and Nielsen, J. D. Featuring Multiple Local Optima to Assist the User in the Interpretation of Induced Bayesian Network Models. In *Proceedings of the Tenth International Conference on Information Processing and Management of Uncertainty in Knowledge-Based Systems IPMU*, 1683-1690, 2004. [pdf here]
16. X-J Wang, Tegnér, J. Constantinidis, C, and Goldman-Rakic, P. Division of labor among distinct subtypes of inhibitory neurons in a cortical microcircuit of working memory. *Proceedings of National Academy of Science* 101:1368-1373, 2004 [pdf here]
15. Peña, J. M., Lozano, J. A. and Larrañaga, P. Unsupervised Learning of Bayesian Networks Via Estimation of Distribution Algorithms: An Application to Gene Expression Data Clustering. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems*, 12 (1), 63-82, 2003. [pdf here]

## **2003**

14. Ehrenberg, M., Elf, J., Aurell, E., Sandberg, and Tegnér, J. Systembiology is taking off. *Genome Research.* Nov;13(11):2377-80. 2003 [pdf here]
13. Sandberg, A. Tegnér, J. and Lansner, A. A working memory model based on fast learning. *Network: Computation in Neural Systems.* volume 14, issue 4, pages 789-802, 2003. [pdf here]
12. Sorg-Madsen, N., Thomsen, C. and Peña, J. M. Unsupervised Feature Subset Selection. In *Proceedings of the Workshop on Probabilistic Graphical Models for Classification. ECML/PKDD*, 71-82, 2003. [pdf here]

11. Nielsen, J. D., Kocka, T. and Peña, J. M. On Local Optima in Learning Bayesian Networks. In Proceedings of the Nineteenth Conference on Uncertainty in Artificial Intelligence, 435-442, 2003. [pdf here]
10. Aurell, E, Ehrenberg, M., Elf, J., Sandberg, and Tegnér, J. The logic of life. *Genome Research*. Nov;13(11):2375-6, 2003 [pdf here]
9. Tegnér, J., Yeung S., Hasty J., and J.J. Collins. Reverse engineering gene networks -- integrating genetic perturbations with dynamical modeling. *Proceedings of National Academy of Science*. 100,5944-5949, 2003 [pdf here]
8. Albert Compte,, Christos Constantinidis, Jesper Tegnér, Sridhar Raghavachari, Matthew V. Chafee, Patricia S. Goldman-Rakic, and Xiao-Jing Wang. Temporally Irregular Mnemonic Persistent Activity in Prefrontal Neurons of Monkeys During a Delayed Response Task *Journal of Neurophysiology*, Nov; 90: 3441 - 3454. 2003 [pdf here]

## **2002**

7. Tegnér, J, Compte, A., Wang, XJ. The dynamical stability of reverberatory dynamics. *Biological Cybernetics*, 87 :5-6, 471-481, 2002 [pdf here]
6. Yeung,S., Tegnér, J. and Collins, J.J. Reverse engineering gene networks - singular value decomposition and robust regression. *Proceedings of National Academy of Science*, 99: 6163-6168. 2002 [pdf here]
5. Björkegren J, Beigneux A, Bergo MO, Maher JJ, Young SG. Blocking the secretion of hepatic very low density lipoproteins renders the liver more susceptible to toxin-induced injury. *J Biol Chem* 2002;277(7):5476-83. [pdf here]
4. Björkegren J, Boquist S, Tang R, Karpe F, Bond MG, de Faire U, Hamsten\* A. Postprandial enrichment of remnant lipoproteins with apolipoprotein-CI in healthy normolipidemic men with early asymptomatic atherosclerosis. *Arterioscler Thromb Vasc Biol*. 2002;22:1470-1474. [pdf here]
3. Tegnér, J. and Kepecs, A. Why neuronal dynamics should control synaptic learning rules. T. G. Dietterich, S. Becker, and Z. Ghahramani (eds.), *Advances in Neural Information Processing Systems (NIPS)* 14: 135-142. MIT Press, Cambridge, MA, 2002 [pdf here]
2. Tegnér, J. and Kepecs, A. Correlation and rate sensitive firing regimes learned with an adaptive spike dependent plasticity rule. *Neurocomputing*, 44-46:189-194, 2002 [pdf here]

1. Kepecs, A., Song, S., van Rossum, and Tegnér, J. Spike-timing dependent plasticity - new vistas. *Biological Cybernetics*, 87 :5-6, 446-458, 2002 [pdf here]