

Access and citation statistics, current as of June 2011

- ***A novel sensitive microarray approach for differential screening using probes labeled with two different radio-elements*** by Salin H, Vujasinovic T, Mazurie A, Maitrejean S, Menini C, Mallet J and Dumas S. Published in *Nucleic Acids Research*, Feb 2002; 30(4):e17
 - Number of accesses (downloads from the journal's website): data not available
 - Number of citations in scholarly journals publications: **22** (sources: ISI Web of Knowledge¹ and CrossRef²); complete list in appendix A (p. 3).
- ***Gene networks inference using dynamic bayesian networks*** by Perrin BE, Ralaivola L, Mazurie A, Bottani S, Mallet J and d'Alché-Buc F. Published in *Bioinformatics*, Oct 2003; 19(2):II138-II148
 - Number of accesses (downloads from the journal's website): data not available
 - Number of citations in scholarly journals' publications: **128** (source: Google Scholar³); complete list in appendix B (p. 5).
- ***An evolutionary and functional assessment of regulatory network motifs*** by Mazurie A, Bottani S and Vergassola M. Published in *Genome Biology*, Mar 2005; 6(4):R35
 - Number of accesses (downloads from the journal's website): **6961** (source: BioMed Central⁴)
 - Number of citations in scholarly journals' publications: **49** (sources: Google Scholar⁵, ISI Web of Knowledge⁶, PubMed⁷); complete list in appendix C (p. 16).
 - Tagged as '**must read**' by the Faculty of 1000⁸
- ***Integrating genome-scale data for gene essentiality prediction*** by Roberts SB, Mazurie A and Buck GA. Published in *Chemistry and Biodiversity*, 2007; 4(11):2618-2630
 - Number of accesses (downloads from the journal's website): data not available
 - Number of citations in scholarly journals' publications: **2** (source: Google Scholar⁹); complete list in appendix D (p. 20).

¹ <http://goo.gl/JgOM5>

² <http://goo.gl/mFxdU>

³ <http://goo.gl/jG7Js>

⁴ <http://goo.gl/gDtkB>

⁵ <http://goo.gl/FfT8v>

⁶ <http://goo.gl/RgU4d>

⁷ <http://goo.gl/swssY>

⁸ See document #5 provided as initial evidence under section 2.A.3

⁹ <http://goo.gl/GpzMs>

- ***Phylogenetic distances are encoded in networks of interacting pathways*** by Mazurie A, Bonchev D, Schwikowski B and Buck GA. Published in *Bioinformatics*, Nov 2008; 24(22):2579-2585
 - Number of accesses (downloads from the journal's website): **1698** (source: Bioinformatics¹⁰)
 - Number of citations in scholarly journals' publications: **16** (sources: ISI Web of Knowledge¹¹ and Google Scholar¹²); complete list in appendix E (p. 21).

- ***Path-a-Way: a strategy for network analysis of microarray data*** by Arasappan D, Mazurie A, Alves J, Bonchev D and Buck GA. Presented at *International Conference on BioMedical Engineering and Informatics* and published in proceedings, p. 432-436 (2008)
 - Number of accesses (downloads from the journal's website): data not available
 - Number of citations in scholarly journals' publications: 0.

- ***Evolution of metabolic network organization*** by Mazurie A, Bonchev D, Schwikowski B and Buck GA. Published in *BMC Systems Biology*, May 2010; 4(1):59
 - Number of accesses (downloads from the journal's website): **2670** (source: BioMed Central¹³)
 - Number of citations in scholarly journals' publications: **3** (sources: ISI Web of Knowledge¹⁴ and Google Scholar¹⁵); complete list in appendix F (p. 23)
 - Tagged as '**Highly accessed**' (source: BMC Systems Biology¹⁶)

- ***Physiology of Pseudomonas aeruginosa in biofilms as revealed by transcriptome analysis*** by Folsom JP, Richards L, Pitts B, Roe F, Ehrlich GD, Parker A, Mazurie A and Stewart PS. Published in *BMC Microbiology*, Nov 2010; 10:294
 - Number of accesses (downloads from the journal's website): **3008** (source: BioMed Central¹⁷)
 - Number of citations in scholarly journals' publications: 0.
 - Tagged as '**Highly accessed**' (source: BMC Microbiology¹⁸)

Note: the two latest publications in BMC Systems Biology and BMC Microbiology are too recent (2010) to have been significantly cited in any other publication, due to the average length for a publication to be peer-reviewed and published (about a year). However, their tagging as 'Highly accessed' by the journal's website demonstrate the interest shown by scientists in the field for the content of this work.

¹⁰ <http://goo.gl/ctwaB>

¹¹ <http://goo.gl/EL94q>

¹² <http://goo.gl/OON1w>

¹³ <http://goo.gl/676Y0>

¹⁴ <http://goo.gl/qW5VM>

¹⁵ <http://goo.gl/G36tw>

¹⁶ <http://goo.gl/DxFsq>

¹⁷ <http://goo.gl/O4Lmh>

¹⁸ <http://goo.gl/clzxr>

Appendix A. Publications in scholarly journals citing the manuscript '*A novel sensitive microarray approach for differential screening using probes labeled with two different radio-elements*'

1. Huang, T.D. et al. Gene expression analysis with an integrated CMOS microarray by time-resolved fluorescence detection. *BIOSENSORS & BIOELECTRONICS* 26, 2660–2665 (2011).
2. Siau, A. et al. Temperature Shift and Host Cell Contact Up-Regulate Sporozoite Expression of Plasmodium falciparum Genes Involved in Hepatocyte Infection. *PLOS PATHOGENS* 4, e1000121 (2008).
3. Marquette, C.A., Corgier, B.P., Heyries, K.A. & Blum, L.J. Biochips: non-conventional strategies for biosensing elements immobilization. *FRONTIERS IN BIOSCIENCE* 13, 382–400 (2008).
4. Siau, A. et al. Whole-Transcriptome Analysis of Plasmodium falciparum Field Isolates: Identification of New Pathogenicity Factors. *J INFECT DIS* 196, 1603–1612 (2007).
5. Rachman, H. & Kaufmann, S.H.E. Exploring functional genomics for the development of novel intervention strategies against tuberculosis. *INTERNATIONAL JOURNAL OF MEDICAL MICROBIOLOGY* 297, 559–567 (2007).
6. Marquette, C.A., Cretich, M., Blum, L.J. & Chiari, M. Protein microarrays enhanced performance using nanobeads arraying and polymer coating. *TALANTA* 71, 1312–1318 (2007).
7. Marquette, C.A., Lawrence, M.F. & Blum, L.J. DNA Covalent Immobilization onto Screen-Printed Electrode Networks for Direct Label-Free Hybridization Detection of p53 Sequences. *ANALYTICAL CHEMISTRY* 78, 959–964 (2006).
8. Kofiadi, I.A. & Rebrikov, D.V. Methods for detecting single nucleotide polymorphisms: Allele-specific PCR and hybridization with oligonucleotide probe. *RUSSIAN JOURNAL OF GENETICS* 42, 16–26 (2006).
9. Honore, P. et al. MicroArray Facility: a laboratory information management system with extended support for Nylon based technologies. *BMC Genomics* 7, (2006).
10. Maskali, F. et al. High-resolution simultaneous imaging of SPECT, PET, and MRI tracers on histologic sections of myocardial infarction. *JOURNAL OF NUCLEAR CARDIOLOGY* 12, 229–230 (2005).
11. Marquette, C. et al. Latex bead immobilisation in PDMS matrix for the detection of p53 gene point mutation and anti-HIV-1 capsid protein antibodies. *ANALYTICAL AND BIOANALYTICAL CHEMISTRY* 381, 1019–1024 (2005).

12. Marquette, C.A. & Blum, L.J. Conducting elastomer surface texturing: a path to electrode spotting. Application to the biochip production. *BIOSENSORS & BIOELECTRONICS* 20, 197–203 (2004).
13. Meloni, R., Khalfallah, O. & Biguet, N. DNA microarrays and pharmacogenomics. *PHARMACOLOGICAL RESEARCH* 49, 303–308 (2004).
14. Gissot, M. et al. Transcriptome of 3D7 and its gametocyte-less derivative F12 *Plasmodium falciparum* clones during erythrocytic development using a gene-specific microarray assigned to gene regulation, cell cycle and transcription factors. *GENE* 341, 267–277 (2004).
15. Marquette, C. & Blum, L. Direct immobilization in poly(dimethylsiloxane) for DNA, protein and enzyme fluidic biochips. *ANALYTICA CHIMICA ACTA* 506, 127–132 (2004).
16. Raetz, E. & Moos, P. Impact of microarray technology in clinical oncology. *CANCER INVESTIGATION* 22, 312–320 (2004).
17. Petalidis, L. Global amplification of mRNA by template-switching PCR: linearity and application to microarray analysis. *NUCLEIC ACIDS RESEARCH* 31, 142e–142 (2003).
18. Marquette, C.A., Thomas, D., Degiuli, A.S. & Blum, L.C.J. Design of luminescent biochips based on enzyme, antibody, or DNA composite layers. *ANALYTICAL AND BIOANALYTICAL CHEMISTRY* 377, 922–928 (2003).
19. Scheel, J. et al. Yellow pages to the transcriptome. *PHARMACOGENOMICS* 3, 791–807 (2002).
20. Talaat, A.M. Genomic DNA standards for gene expression profiling in *Mycobacterium tuberculosis*. *NUCLEIC ACIDS RESEARCH* 30, 104e–104 (2002).
21. Shoemaker, D. & Linsley, P. Recent developments in DNA microarrays. *CURRENT OPINION IN MICROBIOLOGY* 5, 334–337 (2002).
22. Wierling, C. et al. Simulation of DNA array hybridization experiments and evaluation of critical parameters during subsequent image and data analysis. *BMC Bioinformatics* 3, (2002).

Appendix B. Publications in scholarly journals citing the manuscript '*Gene networks inference using dynamic bayesian networks*'

1. Kentzoglanakis, K. & Poole, M. A Swarm Intelligence Framework for Reconstructing Gene Networks: Searching for Biologically Plausible Architectures. *IEEE/ACM Trans. Comput. Biol. and Bioinf.* PP, 1–1 (2011).
2. Morshed, N. & Chetty, M. Information Theoretic Dynamic Bayesian Network Approach for Reconstructing Genetic Networks. *Artificial Intelligence and Applications / Modelling, Identification, and Control* (2011).doi:10.2316/P.2011.717-079
3. Emmert-Streib, F. Large-Scale Statistical Inference of Gene Regulatory Networks: Local Network-Based Measures. *Intelligent Systems Reference Library* 11, 179–193 (2011).
4. Chun, H. et al. Reverse Engineering of Gene Regulation Networks with an Application to the DREAM4 in silico Network Challenge. *Springer Handbooks of Computational Statistics* 461–477 (2011).doi:10.1007/978-3-642-16345-6_22
5. Zare, H. Inferring a Transcriptional Regulatory Network from Gene Expression Data Using Nonlinear Manifold Embedding. *Nature Precedings* (2010).doi:10.1038/npre.2010.5008.1
6. Lelandais, G. & Devaux, F. Comparative Functional Genomics of Stress Responses in Yeasts. *OMICS: A Journal of Integrative Biology* 14, 501–515 (2010).
7. Huynh-Thu, V.A., Irrthum, A., Wehenkel, L. & Geurts, P. Inferring Regulatory Networks from Expression Data Using Tree-Based Methods. *PLoS ONE* 5, e12776 (2010).
8. Ibrahim, Z., Ngom, A. & Tawfik, A.Y. Using Qualitative Probability in Reverse-Engineering Gene Regulatory Networks. *IEEE/ACM Trans. Comput. Biol. and Bioinf.* 8, 326–334 (2010).
9. Shojaie, A. & Michailidis, G. Discovering graphical Granger causality using the truncating lasso penalty. *Bioinformatics* 26, i517–i523 (2010).
10. Morrissey, E.R., Juarez, M.A., Denby, K.J. & Burroughs, N.J. On reverse engineering of gene interaction networks using time course data with repeated measurements. *Bioinformatics* 26, 2305–2312 (2010).
11. Zhou, T. & Wang, Y.L. Causal relationship inference for a large-scale cellular network. *Bioinformatics* 26, 2020–2028 (2010).
12. Yan, W. et al. Effects of Time Point Measurement on the Reconstruction of Gene Regulatory Networks. *Molecules* 15, 5354–5368 (2010).

13. Shiraishi, Y., Kimura, S. & Okada, M. Inferring cluster-based networks from differently stimulated multiple time-course gene expression data. *Bioinformatics* 26, 1073–1081 (2010).
14. Shimamura, T., Imoto, S., Yamaguchi, R., Nagasaki, M. & Miyano, S. Inferring dynamic gene networks under varying conditions for transcriptomic network comparison. *Bioinformatics* 26, 1064–1072 (2010).
15. Zhu, J. et al. Characterizing Dynamic Changes in the Human Blood Transcriptional Network. *PLoS Computational Biology* 6, e1000671 (2010).
16. Rau, A., Jaffrézic, F., Foulley, J. & Doerge, R.W. An Empirical Bayesian Method for Estimating Biological Networks from Temporal Microarray Data. *Statistical Applications in Genetics and Molecular Biology* 9, (2010).
17. Wang, H., Gao, X. & Thompson, C.P. A GA-Based Approach for Parameter Learning of Discrete Dynamic Bayesian Networks. *Computer Modeling and Simulation, 2010. ICCMS '10. Second International Conference on DOI - 10.1109/ICCMS.2010.126* 1, 390–393 (2010).
18. A new approach for modelling gene regulatory networks using fuzzy petri nets. *Journal of integrative bioinformatics* 7, 113 (2010).
19. Datta, D., Konar, A., Nagar, A. & Bisoyi, A. An improved identification technique of gene regulatory network from gene expression time series data using multi-objective differential evolution. *Hybrid Intelligent Systems (HIS), 2010 10th International Conference on DOI - 10.1109/HIS.2010.5601067* 79–84 (2010).doi:10.1109/HIS.2010.5601067
20. Swain, M.T., Mandel, J.J. & Dubitzky, W. Comparative study of three commonly used continuous deterministic methods for modeling gene regulation networks. *BMC Bioinformatics* 11, 459 (2010).
21. Gitter, A., Lu, Y. & Bar-Joseph, Z. Computational Methods for Analyzing Dynamic Regulatory Networks. *Methods in Molecular Biology* 674, 419–441 (2010).
22. Vallabhajosyula, R.R. & Raval, A. Computational Modeling in Systems Biology. *Methods in Molecular Biology* 662, 97–120 (2010).
23. Wiggers, P., Rothkrantz, L. & van de Lisdonk, R. Design and Implementation of a Bayesian Network Speech Recognizer. *Lecture Notes in Computer Science* 6231, 447–454 (2010).
24. Datta, D., Konar, A., Das, S. & Panigrahi, B.K. Gene Regulatory Network Identification from Gene Expression Time Series Data Using Swarm Intelligence. *Adaptation, Learning, and Optimization* 8, 517–542 (2010).
25. Yang, W. & Luo, Q. Modeling Protein-Signaling Networks with Granger Causality Test. *Computational Biology* 15, 249–257 (2010).

26. Mondal, B.S., Sarkar, A.K., Hasan, M.M. & Noman, N. Reconstruction of Gene Regulatory Networks using Differential Evolution. *Computer and Information Technology (ICCIT)*, 2010 13th International Conference on DOI - 10.1109/ICCITECHN.2010.5723898 440–445 (2010).doi:10.1109/ICCITECHN.2010.5723898
27. Smith, V.A. Revealing Structure of Complex Biological Systems Using Bayesian Networks. *Network Science* 185–204 (2010).doi:10.1007/978-1-84996-396-1_9
28. Kabir, M., Noman, N. & Iba, H. Reverse engineering gene regulatory network from microarray data using linear time-variant model. *BMC Bioinformatics* 11, S56 (2010).
29. Matthäus, F., Smith, V.A. & Gebicke-Haerter, P.J. Some Useful Mathematical Tools to Transform Microarray Data into Interactive Molecular Networks. *Systems Biology in Psychiatric Research* 277–300 (2010).doi:10.1002/9783527630271.ch13
30. Ning Sun & Hongyu Zhao Reconstructing transcriptional regulatory networks through genomics data. *Statistical Methods in Medical Research* 18, 595–617 (2009).
31. Aijo, T. & LAHDESMAKI, H. Learning gene regulatory networks from gene expression measurements using non-parametric molecular kinetics. *Bioinformatics* 25, 2937–2944 (2009).
32. Wang, H., Gao, X. & Thompson, C.P. Novel recursive inference algorithm for discrete dynamic Bayesian networks. *Progress in Natural Science* 19, 1147–1151 (2009).
33. Cooke, E.J., Savage, R.S. & Wild, D.L. Computational approaches to the integration of gene expression, ChIP-chip and sequence data in the inference of gene regulatory networks. *Seminars in Cell & Developmental Biology* 20, 863–868 (2009).
34. Echtermeyer, C., Smulders, T.V. & Smith, V.A. Causal pattern recovery from neural spike train data using the Snap Shot Score. *J Comput Neurosci* 29, 231–252 (2009).
35. Szczurek, E., Gat-Viks, I., Tiuryn, J. & Vingron, M. Elucidating regulatory mechanisms downstream of a signaling pathway using informative experiments. *Mol Syst Biol* 5, (2009).
36. Amato, F., Cosentino, C. & Montefusco, F. Exploiting prior knowledge and preferential attachment to infer biological interaction networks. 2009 17th Mediterranean Conference on Control and Automation (MED) 1474–1479 (2009).doi:10.1109/MED.2009.5164755
37. Yufei Huang, Tienda-Luna, I. & Yufeng Wang A survey of statistical models for reverse engineering gene regulatory networks. *IEEE Signal Process. Mag.* 26, 76–97 (2009).

38. Lulli, G. & Romauch, M. A mathematical program to refine gene regulatory networks. *Discrete Applied Mathematics* 157, 2469–2482 (2009).
39. Datta, D., Sinha Choudhuri, S., Konar, A., Nagar, A. & Das, S. A recurrent fuzzy neural model of a gene regulatory network for knowledge extraction using differential evolution. *Evolutionary Computation* 2900–2906 (2009).doi:10.1109/CEC.2009.4983307
40. Hecker, M., Lambeck, S., Toepfer, S., van Someren, E. & Guthke, R. Gene regulatory network inference: Data integration in dynamic models—A review. *Biosystems* 96, 86–103 (2009).
41. Biological network inference and analysis using SEBINI and CABIN. 541, 551–576 (Humana Press: Totowa, NJ, 2009).
42. Chechik, G. & Koller, D. Timing of Gene Expression Responses to Environmental Changes. *Journal of Computational Biology* 16, 279–290 (2009).
43. McKinney, B.A. Informatics approaches for identifying biologic relationships in time-series data. *WIREs Nanomed Nanobiotech* 1, 60–68 (2009).
44. Bayesian analysis of gene expression data. (Wiley Online Library: 2009).
45. Datta, D., Konar, A. & Janarthanan, R. Extraction of interaction information among genes from gene expression time series data. *Nature & Biologically Inspired Computing*, 2009. NaBIC 2009. World Congress on DOI - 10.1109/NABIC.2009.5393607 98–103 (2009).doi:10.1109/NABIC.2009.5393607
46. Hamed, R.I., Ahson, S.I. & Parveen, R. From fuzzy logic theory to Fuzzy Petri Nets predicting changes in gene expression level. *Methods and Models in Computer Science*, 2009. ICM2CS 2009. Proceeding of International Conference on DOI - 1–7 (2009).
47. Nam, H., Lee, K. & Lee, D. Identification of temporal association rules from time-series microarray data sets. *BMC Bioinformatics* 10, S6 (2009).
48. Lèbre, S. Inferring Dynamic Genetic Networks with Low Order Independencies. *Statistical Applications in Genetics and Molecular Biology* 8, (2009).
49. Novikov, E. & Barillot, E. Model selection in the reconstruction of regulatory networks from time-series data. *BMC Res Notes* 2, 68 (2009).
50. Probabilistic Boolean Networks: The Modeling and Control of Gene Regulatory Networks. (Siam: 2009).
51. Wang, Y. et al. Reconstruct gene regulatory network using slice pattern model. *BMC Genomics* 10, S2 (2009).

52. Luo, Q., Liu, X. & Yi, D. Reconstructing Gene Networks from Microarray Time-Series Data via Granger Causality. *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering* 4, 196–209 (2009).
53. Han, Z., Duan, D., Li, W. & Liu, H. Reconstructing genetic regulation network: Problems and methods. *Computer Science and Information Technology*, 2009. IC-CISIT 2009. 2nd IEEE International Conference on DOI - 10.1109/ICCSIT.2009.5234743 194–198 (2009).doi:10.1109/ICCSIT.2009.5234743
54. Zare, H., Sangurdekar, D., Srivastava, P., Kaveh, M. & Khodursky, A. Reconstruction of Escherichia coli transcriptional regulatory networks via regulon-based associations. *BMC Syst Biol* 3, 39 (2009).
55. Bremer, M. & Doerge, R.W. The KM-Algorithm Identifies Regulated Genes in Time Series Expression Data. *Advances in Bioinformatics* 2009, 1–10 (2009).
56. Gao, X., Pu, D.Q. & Song, P.X.K. Transition Dependency: A Gene-Gene Interaction Measure for Times Series Microarray Data. *EURASIP Journal on Bioinformatics and Systems Biology* 2009, 1–12 (2009).
57. Chuang, C., Hung, K., Chen, C. & Shieh, G.S. Uncovering transcriptional interactions via an adaptive fuzzy logic approach. *BMC Bioinformatics* 10, 400 (2009).
58. Daly, R. et al. Using Higher-Order Dynamic Bayesian Networks to Model Periodic Data from the Circadian Clock of Arabidopsis Thaliana. *Lecture Notes in Computer Science* 5780, 67–78 (2009).
59. Gold, D., Mallick, B. & Coombes, K. Real-Time Gene Expression: Statistical Challenges in Design and Inference. *Journal of Computational Biology* 15, 611–623 (2008).
60. Li, P., Zhang, C., Perkins, E., Gong, P. & Deng, Y. Inferring Gene Regulatory Network of Yeast Cell-Cycle using Dynamic Bayesian Network. *Bioinformatics & Computational Biology - BIOCOMP* 801–805 (2008).at
61. Chiu, S., Chen, C. & Lin, T. Using support vector regression to model the correlation between the clinical metastases time and gene expression profile for breast cancer. *Artificial Intelligence in Medicine* 44, 221–231 (2008).
62. Ma, P.C.H. & Chan, K.C.C. Inferring Gene Regulatory Networks From Expression Data by Discovering Fuzzy Dependency Relationships. *IEEE Trans. Fuzzy Syst.* 16, 455–465 (2008).
63. Chuang, C.L., Jen, C.H., Chen, C.M. & Shieh, G.S. A pattern recognition approach to infer time-lagged genetic interactions. *Bioinformatics* 24, 1183–1190 (2008).
64. Jeong, D.H., Darvish, A., Najarian, K., Yang, J. & Ribarsky, W. Interactive visual analysis of time-series microarray data. *TVC* 24, 1053–1066 (2008).

65. Chuang, C., Chen, C., Shieh, G.S. & Jiang, J. A fuzzy logic approach to infer transcriptional regulatory network in *saccharomyces cerevisiae* using promoter site prediction and gene expression pattern recognition. *Evolutionary Computation*, 2008. CEC 2008. (IEEE World Congress on Computational Intelligence). IEEE Congress on DOI - 10.1109/CEC.2008.4631021 1714–1721 (2008).doi:10.1109/CEC.2008.4631021
66. Wang, F., De Pan & Ding, J. A New Approach Combined Fuzzy Clustering and Bayesian Networks for Modeling Gene Regulatory Networks. *BioMedical Engineering and Informatics*, 2008. BMEI 2008. International Conference on DOI - 10.1109/BMEI.2008.1171, 29–33 (2008).
67. Donkers, J. & Tuyls, K. Belief Networks for Bioinformatics. *Studies in Computational Intelligence* 94, 75–111 (2008).
68. Yu, J., Helmlinger, G., Saulnier, M. & Georgieva, A. Computational Inference of Biological Causal Networks – Analysis of Therapeutic Compound Effects. *Analysis of Microarray Data* 83–99 (2008).doi:10.1002/9783527622818.ch4
69. Lin, X. & Chen, X. Gene Network Learning Using Regulated Dynamic Bayesian Network Methods. *Machine Learning and Applications*, 2008. ICMLA '08. Seventh International Conference on DOI - 10.1109/ICMLA.2008.119 717–722 (2008).doi:10.1109/ICMLA.2008.119
70. Identification of temporal association rules from time-series microarray data set: temporal association rules. *Proceeding of the 2nd international workshop on Data and text mining in bioinformatics* 21–28 (2008).
71. Kentzoglanakis, K., Poole, M. & Adams, C. Incorporating Heuristics in a Swarm Intelligence Framework for Inferring Gene Regulatory Networks from Gene Expression Time Series. 5217, 323–330 (Springer Berlin Heidelberg: Berlin, Heidelberg, 2008).
72. Inferring Gene Regulatory Networks from Expression Data. *Computational Intelligence in Bioinformatics* 33–74 (2008).
73. Huang, H., Chen, K., Ho, S. & Ho, S. Inferring S-system models of genetic networks from a time-series real data set of gene expression profiles. *Evolutionary Computation*, 2008. CEC 2008. (IEEE World Congress on Computational Intelligence). IEEE Congress on DOI - 10.1109/CEC.2008.4631021 2788–2793 (2008).doi:10.1109/CEC.2008.4631172
74. Shieh, G.S. et al. Inferring transcriptional compensation interactions in yeast via stepwise structure equation modeling. *BMC Bioinformatics* 9, 134 (2008).
75. Zou, M., Wu, W. & Conzen, S.D. Large-scale DNA Microarray Data Analysis Reveals Glucocorticoid Receptor-mediated Breast Cancer Cell Survival Pathways. *Contemporary Endocrinology* 165–183 (2008).doi:10.1007/978-1-59745-309-7_9

76. Novikov, E. & Barillot, E. Regulatory network reconstruction using an integral additive model with flexible kernel functions. *BMC Syst Biol* 2, 8 (2008).
77. FERRAZZI, F. et al. Inferring gene regulatory networks by integrating static and dynamic data. *International Journal of Medical Informatics* 76, S462–S475 (2007).
78. DAVID, L.A. & WIGGINS, C.H. Benchmarking of Dynamic Bayesian Networks Inferred from Stochastic Time-Series Data. *Annals of the New York Academy of Sciences* 1115, 90–101 (2007).
79. XU, R., VENAYAGAMOORTHY, G. & WUNSCHII, D. Modeling of gene regulatory networks with hybrid differential evolution and particle swarm optimization. *Neural Networks* 20, 917–927 (2007).
80. GEBERT, J., RADDE, N. & WEBER, G. Modeling gene regulatory networks with piecewise linear differential equations. *European Journal of Operational Research* 181, 1148–1165 (2007).
81. Huang, Y., Wang, J., Jianqiu, Z., Sanchez, M. & Wang, Y. Bayesian Inference of Genetic Regulatory Networks from Time Series Microarray Data Using Dynamic Bayesian Networks. *Journal of Multimedia* 2, 46–56 (2007).
82. Tienda-Luna, I.M. et al. Inferring the skeleton cell cycle regulatory network of malaria parasite using comparative genomic and variational Bayesian approaches. *Genetica* 132, 131–142 (2007).
83. Liang, Y. & Kelemen, A. Bayesian State Space Models for Inferring and Predicting Temporal Gene Expression Profiles. *Biom. J.* 49, 801–814 (2007).
84. Goutsias, J. & Lee, N.H. Computational and Experimental Approaches for Modeling Gene Regulatory Networks. *curr pharm des* 13, 1415–1436 (2007).
85. Cosentino, C. et al. Linear matrix inequalities approach to reconstruction of biological networks. *Systems Biology, IET* 1, 164–173 (2007).
86. Xu, R., Wunsch, D., II & Frank, R. Inference of Genetic Regulatory Networks with Recurrent Neural Network Models Using Particle Swarm Optimization. *IEEE/ACM Trans. Comput. Biol. and Bioinf.* 4, 681–692 (2007).
87. Lee, T.Q., Yeh, C.Y. & Doong, S.H. A Comparative Study of Genetic Network Modeling Using Predator-Prey System. *Innovative Computing, Information and Control*, 2007. ICICIC '07. Second International Conference on DOI - 10.1109/ICICIC.2007.7 167–167 (2007).doi:10.1109/ICICIC.2007.7
88. Chuang, C., Chen, C., Shieh, G.S. & Jiang, J. A neuro-fuzzy inference system to infer gene-gene interactions based on recognition of microarray gene expression patterns. *Evolutionary Computation*, 2007. CEC 2007. IEEE Congress on DOI - 10.1109/CEC.2007.4424566 904–910 (2007).doi:10.1109/CEC.2007.4424566

89. Akaho, S. & Fukumizu, K. Active Learning for Network Estimation. Computational Intelligence and Bioinformatics and Computational Biology, 2007. CIBCB '07. IEEE Symposium on DOI - 402–409 (2007).
90. An effective data mining technique for reconstructing gene regulatory networks from time series expression data. *J. Bioinform. Comput. Biol.* 5, 651–668 (2007).
91. Ferrazzi, F., Sebastiani, P., Ramoni, M.F. & Bellazzi, R. Bayesian approaches to reverse engineer cellular systems: a simulation study on nonlinear Gaussian networks. *BMC Bioinformatics* 8, S2 (2007).
92. Kim, H., Lee, J.K. & Park, T. Boolean networks using the chi-square test for inferring large-scale gene regulatory networks. *BMC Bioinformatics* 8, 37 (2007).
93. Li, P., Zhang, C., Perkins, E.J., Gong, P. & Deng, Y. Comparison of probabilistic Boolean network and dynamic Bayesian network approaches for inferring gene regulatory networks. *BMC Bioinformatics* 8, S13 (2007).
94. GeneCFE-ANFIS: A neuro-fuzzy inference system to infer gene-gene interactions based on recognition of microarray gene expression patterns. *BIOMEDICAL ENGINEERING APPLICATIONS BASIS COMMUNICATIONS* 19, 71 (2007).
95. Ko, Y., Zhai, C. & Rodriguez-Zas, S.L. Inference of Gene Pathways Using Gaussian Mixture Models. *Bioinformatics and Biomedicine, 2007. BIBM 2007. IEEE International Conference on DOI - 10.1109/BIBM.2007.59 362–367 (2007).doi:10.1109/BIBM.2007.59*
96. Kim, S. & Kim, D. Inference of Gene Regulatory Networks Using Time Sliding Comparison and Transcriptional Lagging Time from Time Series Gene Expression Profiles. *Bioinformatics and Bioengineering, 2007. BIBE 2007. Proceedings of the 7th IEEE International Conference on DOI - 10.1109/BIBE.2007.4375684 1035–1040 (2007).doi:10.1109/BIBE.2007.4375684*
97. Markowitz, F. & Spang, R. Inferring cellular networks – a review. *BMC Bioinformatics* 8, S5 (2007).
98. Rao, A., Hero, A.O., III, States, D.J. & Engel, J.D. Inferring Time-Varying Network Topologies from Gene Expression Data. *EURASIP Journal on Bioinformatics and Systems Biology* 2007, 1–12 (2007).
99. Mandel, J.J., Palfreyman, N.M. & Dubitzky, W. Modelling codependence in biological systems. *IET Syst. Biol.* 1, 18 (2007).
100. Beal, M.J., Li, J., Ghahramani, Z. & Wild, D.L. Reconstructing Transcriptional Networks Using Gene Expression Profiling and Bayesian State-Space Models. *Introduction to Systems Biology* 217–241 (2007).doi:10.1007/978-1-59745-531-2_12

101. HAAVISTO, O. STATE SPACE MODELING OF YEAST GENE EXPRESSION DYNAMICS. *J. Bioinform. Comput. Biol.* 5, 31 (2007).

102. Isabel Tienda Luna, Y.H.Y.D.P.R.P. & Perez, M.C.C. Uncovering Gene Regulatory Networks from Time-Series Microarray Data with Variational Bayesian Structural Expectation Maximization. *EURASIP Journal on Bioinformatics and Systems Biology* 2007, (2007).

103. Ross, B.J. & Zuviria, E. Evolving dynamic Bayesian networks with Multi-objective genetic algorithms. *Appl Intell* 26, 13–23 (2006).

104. Inoue, L.Y.T., Neira, M., Nelson, C., Gleave, M. & Etzioni, R. Cluster-based network model for time-course gene expression data. *Biostatistics* 8, 507–525 (2006).

105. Yu, J., Helmlinger, G., Saulnier, M. & Georgieva, A. Computational Inference of Compound-induced Anti-inflammatory Effects Across Time in an Adjuvant-induced Arthritis Rat Model. *Bioinformatics & Computational Biology* 490–495 (2006)

106. Ram, R., Chetty, M. & Dix, T.I. Fuzzy Model for Gene Regulatory Network. 2006 IEEE International Conference on Evolutionary Computation 1450–1455 (2006).doi:10.1109/CEC.2006.1688479

107. Langmead, C., Jha, S. & Clarke, E. Temporal-logics as query languages for Dynamic Bayesian Networks: Application to *D. melanogaster* Embryo Development. (2006)

108. Xing, Z. & Wu, D. Modeling Multiple Time Units Delayed Gene Regulatory Network Using Dynamic Bayesian Network. Sixth IEEE International Conference on Data Mining - Workshops (ICDMW'06) 190–195 (2006).doi:10.1109/ICDMW.2006.120

109. LAHDESMAKI, H., HAUTANIEMI, S., SHMULEVICH, I. & YLIHARJA, O. Relationships between probabilistic Boolean networks and dynamic Bayesian networks as models of gene regulatory networks. *Signal Processing* 86, 814–834 (2006).

110. Chen, X.W. An effective structure learning method for constructing gene networks. *Bioinformatics* 22, 1367–1374 (2006).

111. Li, Z. Using a state-space model with hidden variables to infer transcription factor activities. *Bioinformatics* 22, 747–754 (2006).

112. Xu, R., Venayagamoorthy, G. & Wunsch, D. A Study of Particle Swarm Optimization in Gene Regulatory Networks Inference. *Lecture Notes in Computer Science* 3973, 648–653 (2006).

113. Dojer, N., Gambin, A., Mizera, A., Wilczyński, B. & Tiuryn, J. Applying dynamic Bayesian networks to perturbed gene expression data. *BMC Bioinformatics* 7, 249 (2006).

114. Liang, Y. & Kelemen, A. Bayesian Dynamic Multivariate Models for Inferring Gene Interaction Networks. Engineering in Medicine and Biology Society, 2006. EMBS '06. 28th Annual International Conference of the IEEE DOI - 10.1109/IEMBS.2006.260091 2041–2044 (2006).doi:10.1109/IEMBS.2006.260091
115. He, F. & Zeng, A. In search of functional association from time-series microarray data based on the change trend and level of gene expression. BMC Bioinformatics 7, 69 (2006).
116. Microarrays and Transcription Networks. (Landes Bioscience/Eurekah. com: 2006).
117. Du, P., Gong, J., SyrkinWurtele, E. & Dickerson, J.A. Modeling Gene Expression Networks Using Fuzzy Logic. IEEE Trans. Syst., Man, Cybern. B 35, 1351–1359 (2005).
118. PENA, J., BJORKEGREN, J. & TEGNER, J. Learning dynamic Bayesian network models via cross-validation. Pattern Recognition Letters 26, 2295–2308 (2005).
119. Bezerra, G.B., Barra, T.V., Zuben, von, F.J. & de Castro, L.N. Handling Data Sparseness in Gene Network Reconstruction. Computational Intelligence in Bioinformatics and Computational Biology, 2005. CIBCB '05. Proceedings of the 2005 IEEE Symposium on DOI - 10.1109/CIBCB.2005.1594900 1–8 (2005).doi:10.1109/CIBCB.2005.1594900
120. Beal, M.J. A Bayesian approach to reconstructing genetic regulatory networks with hidden factors. Bioinformatics 21, 349–356 (2005).
121. Zou, M. & Conzen, S.D. A new dynamic Bayesian network (DBN) approach for identifying gene regulatory networks from time course microarray data. Bioinformatics 21, 71–79 (2005).
122. Noman, N. & Iba, H. Inference of gene regulatory networks using s-system and differential evolution. GECCO '05 439–446 (2005).doi:10.1145/1068009.1068079
123. CAPOBIANCO, E. Mining Time-dependent Gene Features. J. Bioinform. Comput. Biol. 3, 1191 (2005).
124. Noman, N. & Iba, H. Reverse engineering genetic networks using evolutionary computation. Genome Informatics 16, 205–214 (2005).
125. Bar-Joseph, Z. Analyzing time series gene expression data. Bioinformatics 20, 2493–2503 (2004).
126. Nachman, I. Inferring quantitative models of regulatory networks from expression data. Bioinformatics 20, i248–i256 (2004).

127. BOURQUE, G. IMPROVING GENE NETWORK INFERENCE BY COMPARING EXPRESSION TIME-SERIES ACROSS SPECIES, DEVELOPMENTAL STAGES OR TISSUES. *J. Bioinform. Comput. Biol.* 2, 765 (2004).

128. Thompson, M.J., Driscoll, M.E., Gardner, T.S. & Collins, J.J. Reverse engineering gene regulatory networks. *Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics* (2004).doi:10.1002/047001153X.g308205

Appendix C. Publications in scholarly journals citing the manuscript '*An evolutionary and functional assessment of regulatory network motifs*'

1. Carreto, L. et al. Expression variability of co-regulated genes differentiates *Saccharomyces cerevisiae* strains. *BMC Genomics* 12, 201 (2011).
2. Lelandais, G. & Devaux, F. Comparative Functional Genomics of Stress Responses in Yeasts. *OMICS: A Journal of Integrative Biology* 14, 501–515 (2010).
3. Ginoza, R. & Mugler, A. Network motifs come in sets: Correlations in the randomization process. *Phys. Rev. E* 82, (2010).
4. Schreiber, F. & Schwobbermeyer, H. Motifs in Biological Networks. *Statistical and Evolutionary Analysis of Biological Networks* (2010).
5. Wang, Y.-C. & Chen, B.-S. Integrated cellular network of transcription regulations and protein-protein interactions. *BMC Syst Biol* 4, 20 (2010).
6. Jenkins, D. & Stekel, D. De Novo Evolution of Complex, Global and Hierarchical Gene Regulatory Mechanisms. *J Mol Evol* 71, 128–140 (2010).
7. Wu, C. et al. Composite functional module inference: detecting cooperation between transcriptional regulation and protein interaction by mantel test. *BMC Syst Biol* 4, 82 (2010).
8. Almaas, E. Evolution of Metabolic Networks. *Evolutionary Genomics and Systems Biology* 397–411 (2010).doi:10.1002/9780470570418.ch18
9. Goemann, B., Wingender, E. & Potapov, A.P. An approach to evaluate the topological significance of motifs and other patterns in regulatory networks. *BMC Syst Biol* 3, 53 (2009).
10. Ratmann, O., Wiuf, C. & Pinney, J.W. From evidence to inference: probing the evolution of protein interaction networks. *HFSP J.* 3, 290 (2009).
11. Lagomarsino, M.C., Bassetti, B., Castellani, G. & Remondini, D. Functional models for large-scale gene regulation networks: realism and fiction. *Mol. BioSyst.* 5, 335–344 (2009).
12. Re, A., Corá, D., Taverna, D. & Caselle, M. Genome-wide survey of microRNA-transcription factor feed-forward regulatory circuits in human. *Mol. BioSyst.* 5, 854 (2009).
13. Danos, V., Féret, J., Fontana, W., Harmer, R. & Krivine, J. Investigation of a Biological Repair Scheme. *Lecture Notes in Computer Science* 5391, 1–12 (2009).
14. Wang, J. & Provan, G. On motifs and functional modules in complex networks. *Science and Technology for Humanity (TIC-STH), 2009 IEEE Toronto International Conference* DOI - 10.1109/TIC-STH.2009.5444392 78–82 (2009).doi:10.1109/TIC-STH.2009.5444392

15. Cui, Q., Purisima, E.O. & Wang, E. Protein evolution on a human signaling network. *BMC Syst Biol* 3, 21 (2009).
16. Cournac, A. & Sepulchre, J.-A. Simple molecular networks that respond optimally to time-periodic stimulation. *BMC Syst Biol* 3, 29 (2009).
17. Camas, F.M. & Poyatos, J.F. What Determines the Assembly of Transcriptional Network Motifs in *Escherichia coli*? *PLoS ONE* 3, e3657 (2008).
18. Kuzniar, A., van Ham, R.C.H.J., Pongor, S. & Leunissen, J.A.M. The quest for orthologs: finding the corresponding gene across genomes. *Trends in Genetics* 24, 539–551 (2008).
19. KNABE, J., NEHANIV, C. & SCHILSTRA, M. Do motifs reflect evolved function?—No convergent evolution of genetic regulatory network subgraph topologies☆. *Biosystems* 94, 68–74 (2008).
20. Sellerio, A.L., Bassetti, B., Isambert, H. & Cosentino Lagomarsino, M. A comparative evolutionary study of transcription networks. eprint arXiv:0805.2288 (2008).
21. Ciriello, G. & Guerra, C. A review on models and algorithms for motif discovery in protein-protein interaction networks. *Briefings in Functional Genomics and Proteomics* 7, 147–156 (2008).
22. Ortutay, C. & Vihinen, M. Efficiency of the immunome protein interaction network increases during evolution. *Immunome Res* 4, 4 (2008).
23. Freyre-Gonzalez, J.A., Alonso-Pavon, J.A., Trevino-Quintanilla, L.G. & Collado-Vides, J. Functional architecture of *Escherichia coli*: new insights provided by a natural decomposition approach. *Genome Biol.* 9, R154 (2008).
24. Hallinan, J.S. & Wipat, A. Network motifs in context: An exploration of the evolution of oscillatory dynamics in transcriptional networks. *Computational Intelligence in Bioinformatics and Computational Biology, 2008. CIBCB '08. IEEE Symposium on DOI - 10.1109/CIBCB.2008.4675763* 83–89 (2008).doi:10.1109/CIBCB.2008.4675763
25. Loinger, A. & Biham, O. Stochastic simulations of the repressilator circuit. *Phys. Rev. E* 76, (2007).
26. Ward, J.J. & Thornton, J.M. Evolutionary Models for Formation of Network Motifs and Modularity in the *Saccharomyces* Transcription Factor Network. *PLoS Computational Biology* 3, e198 (2007).
27. Lynch, M. The evolution of genetic networks by non-adaptive processes. *Nat Rev Genet* 8, 803–813 (2007).

28. HEGLAND, M., BURDEN, C., SANTOSO, L., MACNAMARA, S. & BOOTH, H. A solver for the stochastic master equation applied to gene regulatory networks. *Journal of Computational and Applied Mathematics* 205, 708–724 (2007).
29. Solé, R.V. & Valverde, S. Spontaneous emergence of modularity in cellular networks. *Journal of The Royal Society Interface* 5, 129–133 (2007).
30. Leier, A., Kuo, P. & Banzhaf, W. Analysis of preferential network motif generation in an artificial regulatory network model created by duplication and divergence. *Advances in Complex Systems* 10, 155–172 (2007).
31. Auffray, C. & Nottale, L. Scale relativity theory and integrative systems biology: 1: Founding principles and scale laws. *Progress in Biophysics and Molecular Biology* 97, 79–114 (2007).
32. Wang, Z. & Zhang, J. In Search of the Biological Significance of Modular Structures in Protein Networks. *PLoS Computational Biology* 3, e107 (2007).
33. Bassetti, F., Cosentino Lagomarsino, M., Bassetti, B. & Jona, P. Random networks tossing biased coins. *Phys. Rev. E* 75, (2007).
34. Martelli, C., Giansanti, A., Arisi, I. & Rosato, V. Asymptotic states and topological structure of an activation–deactivation chemical network. *Journal of Theoretical Biology* 245, 423–432 (2007).
35. Parida, L. Discovering Topological Motifs Using a Compact Notation. *Journal of Computational Biology* 14, 300–323 (2007).
36. Cosentino Lagomarsino, M., Jona, P., Bassetti, B. & Isambert, H. Hierarchy and feedback in the evolution of the *Escherichia coli* transcription network. *Proceedings of the National Academy of Sciences* 104, 5516–5520 (2007).
37. Meshi, O., Shlomi, T. & Ruppin, E. Evolutionary conservation and overrepresentation of functionally enriched network patterns in the yeast regulatory network. *BMC Syst Biol* 1, 1 (2007).
38. Evlampiev, K. & Isambert, H. Modeling protein network evolution under genome duplication and domain shuffling. *BMC Syst Biol* 1, 49 (2007).
39. Stumpf, M.P., Robertson, B.D., Duncan, K. & Young, D.B. Systems biology and its impact on anti-infective drug development. *Progress in Drug Research* 64, 1–20 (2007).
40. SOLE, R. & VALVERDE, S. Are network motifs the spandrels of cellular complexity? *Trends in Ecology & Evolution* 21, 419–422 (2006).
41. Alon, U. An introduction to systems biology: Design principles of biological circuits. (Chapman & Hall/CRC: 2006).

42. Aittokallio, T. Graph-based methods for analysing networks in cell biology. *Briefings in Bioinformatics* 7, 243–255 (2006).
43. Madan Babu, M., Teichmann, S.A. & Aravind, L. Evolutionary Dynamics of Prokaryotic Transcriptional Regulatory Networks. *Journal of Molecular Biology* 358, 614–633 (2006).
44. Lozada-Chávez, I., Janga, S.C. & Collado-Vides, J. Bacterial regulatory networks are extremely flexible in evolution. *NUCLEIC ACIDS RESEARCH* 34, 3434–3445 (2006).
45. Lesne, A. Complex Networks: from Graph Theory to Biology. *Lett Math Phys* 78, 235–262 (2006).
46. Yu, H., Xia, Y., Trifonov, V. & Gerstein, M. Design principles of molecular networks revealed by global comparisons and composite motifs. *Genome Biol.* 7, R55 (2006).
47. de Silva, E. et al. The effects of incomplete protein interaction data on structural and evolutionary inferences. *BMC Biology* 4, 39 (2006).
48. François, P. & Hakim, V. Core genetic module: The mixed feedback loop. *Phys. Rev. E* 72, (2005).
49. de Silva, E. & Stumpf, M.P.H. Complex networks and simple models in biology. *Journal of The Royal Society Interface* 2, 419–430 (2005).

Appendix D. Publications in scholarly journals citing the manuscript '*Integrating genome-scale data for gene essentiality prediction*'

1. Manimaran, P., Hegde, S.R. & Mande, S.C. Prediction of conditional gene essentiality through graph theoretical analysis of genome-wide functional linkages. *Mol. BioSyst.* 5, 1936 (2009).
2. Brooks, J.P. Measurable Notions of Complexity and Their Relationship to Biological Complexity. *Chem. Biodivers.* 4, 2656–2669 (2007).

Appendix E. Publications in scholarly journals citing the manuscript '*Phylogenetic distances are encoded in networks of interacting pathways*'

1. González-Díaz, H. et al. NL MIND-BEST: A web server for ligands and proteins discovery—Theoretic-experimental study of proteins of *Giardia lamblia* and new compounds active against *Plasmodium falciparum*. *Journal of Theoretical Biology* 276, 229–249 (2011).
2. González-Díaz, H. et al. MIND-BEST: Web Server for Drugs and Target Discovery; Design, Synthesis, and Assay of MAO-B Inhibitors and Theoretical-Experimental Study of G3PDH Protein from *Trichomonas gallinae*. *J. Proteome Res.* 10, 1698–1718 (2011).
3. Dehmer, M., Mowshowitz, A. & Emmert-Streib, F. Connections between Classical and Parametric Network Entropies. *PLoS ONE* 6, e15733 (2011).
4. Emmert-Streib, F. & Dehmer, M. Networks for systems biology: conceptual connection of data and function. *IET Syst. Biol.* 5, 185 (2011).
5. Bernhardsson, S., Gerlee, P. & Lizana, L. Structural correlations in bacterial metabolic networks. *BMC Evol Biol* 11, 20 (2011).
6. Nikoloski, Z., May, P. & Selbig, J. Algebraic connectivity may explain the evolution of gene regulatory networks. *Journal of Theoretical Biology* 267, 7–14 (2010).
7. Dehmer, M. & Popovscaia, M. Towards structural network analysis. *Bul. Acad. Ştiinţe Repub. Mold. Mat.* 3–22 (2010)
8. Werth, M.T., Halouska, S., Shortridge, M.D., Zhang, B. & Powers, R. Analysis of metabolomic PCA data using tree diagrams. *ANALYTICAL BIOCHEMISTRY* 399, 58–63 (2010).
9. ZHOU, T.-T. et al. MetaGen: a Promising Tool for Modeling Metabolic Networks From KEGG. *PROGRESS IN BIOCHEMISTRY AND BIOPHYSICS* 37, 63–68 (2010).
10. Rodriguez-Soca, Y. et al. Plasmod-PPI: A web-server predicting complex biopolymer targets in plasmodium with entropy measures of protein–protein interactions. *Polymer* 51, 264–273 (2010).
11. Diudea, M.V., Ilić, A., Varmuza, K. & Dehmer, M. Network analysis using a novel highly discriminating topological index. *Complexity* n/a–n/a (2010).doi:10.1002/cplx.20363
12. Dehmer, M.M., Barbarini, N.N., Varmuza, K.K. & Graber, A.A. Novel topological descriptors for analyzing biological networks. *BMC Struct Biol* 10, 18 (2010).
13. Huvet, M. et al. Model-based evolutionary analysis: the natural history of phage-shock stress response. *Biochem. Soc. Trans* 37, 762 (2009).

14. Zhou, T., Yung, S.K.F., Wang, Z. & Zhu, Y. A New Recursive Approach for Reconstructing Metabolic Networks from KEGG. *Frontier of Computer Science and Technology*, 2009. FCST '09. Fourth International Conference on DOI - 10.1109/FCST.2009.28 510–515 (2009).doi:10.1109/FCST.2009.28
15. Clemente, J.C., Ikeo, K., Valiente, G. & Gojobori, T. Optimized ancestral state reconstruction using Sankoff parsimony. *BMC Bioinformatics* 10, 51 (2009).
16. Wren, J.D. et al. Proceedings of the 2009 MidSouth Computational Biology and Bioinformatics Society (MCBIOS) Conference. *BMC Bioinformatics* 10, S1 (2009).

Appendix F. Publications in scholarly journals citing the manuscript '*Evolution of metabolic network organization*'

1. González-Díaz, H. et al. NL MIND-BEST: A web server for ligands and proteins discovery—Theoretic-experimental study of proteins of *Giardia lamblia* and new compounds active against *Plasmodium falciparum*. *Journal of Theoretical Biology* 276, 229–249 (2011).
2. Pavlopoulos, G.A. et al. Using graph theory to analyze biological networks. *Bi-oData Mining* 4, 10 (2011).
3. Tse, H., Cai, J.J., Tsoi, H.-W., Lam, E.P. & Yuen, K.-Y. Natural selection retains overrepresented out-of-frame stop codons against frameshift peptides in prokaryotes. *BMC Genomics* 11, 491 (2010).