

Zohar Yakhini

List of publications

Jan 2016

Journal Publications

2016

1. Weingarten-Gabbay, Elias-Kirma, Nir, Gritsenko, Stern-Ginossar, **Yakhini**, Weinberger, Segal, Systematic discovery of cap-independent translation sequences in human and viral genomes, doi: 10.1126/science.aad4939
Science 2016

2015

2. Haakensen Vilde D, Steinfeld Israel, Saldova Radka, Shehni Akram Asadi, Kifer Ilona, Naume Bjørn, Rudd Pauline M, Børresen-Dale Anne-Lise, **Yakhini Zohar**, Serum N-glycan analysis in breast cancer patients—Relation to tumour biology and clinical outcome, doi: 10.1016/j.molonc.2015.08.002
Molecular Oncology 2015
3. Levo, Zalckvar, Sharon, Machado, Kalma, Lotam-Pompan, Weinberger, **Yakhini**, Rohs, Segal, Unraveling determinants of transcription factor binding outside the core binding site, doi: 10.1101/gr.185033.114
Genome Research 2015
4. Shalem, Sharon, Lubliner, Regev, Lotan-Pompan, **Yakhini**, Segal, Systematic Dissection of the Sequence Determinants of Gene 3'End Mediated Expression Control, doi: 10.1371/journal.pgen.1005147
PLoS Genetics 2015
5. Vitkin E, Golberg A, **Yakhini Z**, BioLEGO—a web-based application for biorefinery design and evaluation of serial biomass fermentation, doi: 10.1142/S2339547815400038
Technology 2015
6. Drory-Retwitzer, Polishchuk, Churkin, Kifer, **Yakhini**, Barash, RNAPattMatch: a web server for RNA sequence/structure motif detection based on pattern matching with flexible gaps, doi: 10.1093/nar/gkv435,
Nucleic Acids Research 2015
7. I Steinfeld, R Navon, ML Creech, **Z Yakhini**, A Tsalenko, ENViz: A Cytoscape App for Integrated Statistical Analysis and Visualization of Sample-Matched Data with Multiple Data Types, doi: 10.1093/bioinformatics/btu853
Bioinformatics 2015
8. Drory-Retwitzer M, Kifer I, Sengupta S, **Yakhini Z**, Barash D, An Efficient Minimum Free Energy Structure-Based Search Method for Riboswitch Identification

Based on Inverse RNA Folding
doi: 10.1371/journal.pone.0134262
PLoS One 2015

2014

9. L Leibovich, **Z Yakhini**,
Mutual enrichment in ranked lists and the statistical assessment of position weight matrix motifs,
doi: 10.1186/1748-7188-9-11
Algorithms in Molecular Biology 2014
Conference version: WABI 2013
10. Sharon, D van Dijk, Y Kalma, L Keren, O Manor, **Z Yakhini**, E Segal,
Probing the effect of promoters on noise in gene expression using thousands of designed sequences,
doi: 10.1101/gr.168773.113
Genome Research 2014
11. Radka Saldova, Akram Asadi Shehni, Vilde D Haakensen, Israel Steinfeld, Mark Hilliard, Ilona Kifer, Åslaug Helland, **Zohar Yakhini**, Anne-Lise Børresen-Dale, Pauline M Rudd,
Association of N-glycosylation with breast carcinoma and systemic features using high-resolution quantitative UPLC,
doi: 10.1021/pr401092y
Journal of Proteome Research 2014
12. D Nejman, R Straussman, I Steinfeld, M Ruvolo, D Roberts, **Z Yakhini**, H Cedar,
Molecular rules governing de novo methylation in cancer,
doi: 10.1158/0008-5472.CAN-13-3042
Cancer Research 2014
13. Tahiri A, Leivonen SK, Lüders T, Steinfeld I, Ragle Aure M, Geisler J, Mäkelä R, Nord S, Riis ML, **Yakhini Z**, Kleivi Sahlberg K, Børresen-Dale AL, Perälä M, Bukholm IR, Kristensen VN,
Deregulation of cancer-related miRNAs is a common event in both benign and malignant human breast tumors,
doi: 10.1093/carcin/bgt333,
Carcinogenesis 2014
14. Golberg, Vitkin, Linshiz, Khan, Hillson, **Yakhini**, Yarmush
Proposed design of distributed macroalgal biorefineries: Thermodynamics, bioconversion technology, and sustainability implications for developing economies,
doi: 10.1002/bbb.1438
Biofuels, bioproducts and biorefineries 2014
15. Vitkin, Ben-Dor, Shmoish, Hartmann, **Yakhini**, Wudy, Hochberg
Peer group normalization and urine to blood context in steroid metabolomics: The case of CAH and obesity
doi: 10.1016/j.steroids.2014.07.003
Steroids 2014

2013

16. Israel Steinfeld, Roy Navon, Robert Ach, **Zohar Yakhini**,
miRNA target enrichment analysis reveals directly active miRNAs in health and disease,
doi: 10.1093/nar/gks1142
Nucleic Acids Research 2013

17. Limor Leibovich, Inbal Paz, **Zohar Yakhini**, Yael Mandel-Gutfreund,
DRIMust: a web server for discovering rank imbalanced motifs using suffix trees,
doi: 10.1093/nar/gkt407
Nucleic Acids Research 2013
18. Ben-Elazar, **Yakhini**, Yanai
Spatial localization of co-regulated genes exceeds genomic gene clustering in the *Saccharomyces cerevisiae* genome
doi: 10.1093/nar/gks1360
Nucleic Acids Research 2013
19. Ragle-Aure M, Steinfeld I, Baumbusch L, Liestøl K, Lipson D, Nyberg S, Naume B, Kleivi-Sahlberg K, Kristensen VN, Børresen-Dale AL, Lingjaerde OC, **Yakhini Z**
Identifying in-trans process associated genes in breast cancer by integrated analysis of copy number and expression data
doi: 10.1371/journal.pone.0053014
PLoS One 2013
20. Johansson HJ, Sanchez BC, Mundt F, Forshed J, Kovacs A, Panizza E, Hultin-Rosenberg L, Lundgren B, Martens U, Máthé G, **Yakhini Z**, Helou K, Krawiec K, Kanter L, Hjerpe A, Stål O, Linderholm BK, Lehtiö J.
Retinoic acid receptor alpha is associated with tamoxifen resistance in breast cancer
doi: 10.1038/ncomms3175
Nature Communications 2013

2012

21. Limor Leibovich, **Zohar Yakhini**,
Efficient motif search in ranked lists and applications to variable gap motifs,
doi: 10.1093/nar/gks206
Nucleic Acids Research 2012
22. Yonatan Aumann, Moshe Lewenstein, Oren Melamud, Ron Pinter, **Zohar Yakhini**,
Dotted interval graphs,
doi: 10.1145/2151171.2151172
SODA 2005 (Conference version) and *ACM Transactions on Algorithms* 2012
23. Eilon Sharon, Yael Kalma, Ayala Sharp, Tali Raveh-Sadka, Michal Levo, Danny Zeevi, Leeat Keren, **Zohar Yakhini**, Adina Weinberger, Eran Segal,
Inferring gene regulatory logic from high-throughput measurements of thousands of systematically designed promoters,
doi: 10.1038/nbt.2205
Nature Biotechnology 2012
24. Einat I Rabinovich, Maria G Kapetanaki, Israel Steinfeld, Kevin F Gibson, Kusum V Pandit, Guoying Yu, **Zohar Yakhini**, Naftali Kaminski,
Global methylation patterns in idiopathic pulmonary fibrosis,
doi: 10.1371/journal.pone.0033770
PLoS One 2012
25. Farkash-Amar S, David Y, Polten A, Hezroni H, Eldar YC, Meshorer E, **Yakhini Z**, Simon I,
Systematic determination of replication activity type highlights interconnections between replication, chromatin structure and nuclear localization,
doi: 10.1371/journal.pone.0048986
PLoS One 2012

26. Pareja, Ferraro, Rubin, Cohen-Dvashi, Zhang, Aulmann, Ben-Chetrit, Pines, Navon, Crosetto, Kostler, Carvalho, Lavi, Scmitt, Dikic, **Yakhini**, Sinn, Mills, Yarden
Deubiquitination of EGFR by Cezanne-1 contributes to cancer progression
doi: 10.1038/onc.2011.587
Oncogene 2012

2011

27. Espen Enerly, Israel Steinfeld, Kristine Kleivi, Suvi-Katri Leivonen, Miriam R Aure, Hege G Russnes, Jo Anders Rønneberg, Hilde Johnsen, Roy Navon, Einar Rødland, Rami Mäkelä, Bjørn Naume, Merja Perälä, Olli Kallioniemi, Vessela N Kristensen, **Zohar Yakhini**, Anne-Lise Børresen-Dale,
miRNA-mRNA integrated analysis reveals roles for miRNAs in primary breast tumors,
doi: 10.1371/journal.pone.0016915
PLoS One 2011
28. Eldrid Borgan, Roy Navon, Hans Kristian Moen Vollan, Ellen Schlichting, Torill Sauer, **Zohar Yakhini**, Ole Christian Lingjærde, Therese Sørli, Anne-Lise Børresen-Dale,
Ischemia caused by time to freezing induces systematic microRNA and mRNA responses in cancer tissue
doi: 10.1016/j.molonc.2011.08.004
Molecular Oncology 2011
29. Yosefzon, Koh, Chritton, Lande, Leibovich, Barziv, Petzold, **Yakhini**, Mandel-Gutfreund, Wickens, Arava
Divergent RNA binding specificity of yeast Puf2p
doi: 10.1261/rna.2700311
RNA Journal 2011
30. **Zohar Yakhini**, Igor Jurisica
Cancer Computational Biology
doi: 10.1186/1471-2105-12-120
BMC Bioinformatics 2011

2010

31. Yaffe, Farkash-Amar, Polten, **Yakhini**, Tanay, Simon
Comparative analysis of DNA replication timing reveals conserved large-scale chromosomal architecture
doi: 10.1371/journal.pgen.1001011
PLoS Genetics 2010
32. Roi Avraham, Aldema Sas-Chen, Ohad Manor, Israel Steinfeld, Reut Shalgi, Gabi Tarcic, Noa Bossel, Amit Zeisel, Ido Amit, Yaara Zwang, Espen Enerly, Hege G Russnes, Francesca Biagioni, Marcella Mottolese, Sabrina Strano, Giovanni Blandino, Anne-Lise Børresen-Dale, Yitzhak Pilpel, **Zohar Yakhini**, Eran Segal, Yosef Yarden,
EGF decreases the abundance of microRNAs that restrain oncogenic transcription factors,
doi: 10.1126/scisignal.2000876
Science Signaling 2010
33. L Leibovich, Y Mandel-Gutfreund, **Z Yakhini**
A structural-based statistical approach suggests a cooperative activity of PUM1 and miR-410 in human 3'-untranslated regions,

doi: 10.1186/1758-907X-1-17

Silence 2010

34. Buganim, Goldstein, Lipson, Milyavski, Polak-Charcon, Mardoukh, Solomon, Kalo, Madar, Brosh, Perelman, Navon, Goldfinger, Barshak, **Yakhini**, Rotter,
A novel translocation breakpoint within the BPTF gene is associated with a pre-malignant phenotype
doi: 10.1371/journal.pone.0009657
PLoS One 2010
35. Edvardsen H, Brunsvig PF, Solvang H, Tsalenko A, Andersen A, Syvanen AC, **Yakhini Z**, Børresen-Dale AL, Olsen H, Aamdal S, Kristensen VS
SNPs in genes coding for ROS metabolism and signalling in association with docetaxel clearance,
doi: 10.1038/tpj.2010.6
The Pharmacogenomics Journal 2010
36. Tiosano, Navon, Flor, Knopf, Hartmann, Wudy, Yakhini, Hochberg,
A steroid metabolomic approach to 17 α -hydroxylase/17, 20 lyase deficiency
doi: 10.1007/s11306-010-0217-8
Metabolomics 2010

2009

37. Roy Navon, Hui Wang, Israel Steinfeld, Anya Tsalenko, Amir Ben-Dor, **Zohar Yakhini**,
Novel rank-based statistical methods reveal microRNAs with differential expression in multiple cancer types,
doi: 10.1371/journal.pone.0008003
PLoS One 2009
38. Eran Eden, Roy Navon, Israel Steinfeld, Doron Lipson, **Zohar Yakhini**,
GORilla: a tool for discovery and visualization of enriched GO terms in ranked gene lists,
doi: 10.1186/1471-2105-10-48
BMC Bioinformatics 2009
39. Ravid Straussman, Deborah Nejman, Douglas Roberts, Israel Steinfeld, Barak Blum, Nissim Benvenisty, Itamar Simon, **Zohar Yakhini**, Howard Cedar,
Developmental programming of CpG island methylation profiles in the human genome,
doi: 10.1038/nsmb.1594
Nature structural & molecular biology 2009
40. Nachtomy O, Ramati Y, Shavit A, **Yakhini Z**
It Takes Two to Tango: Genotyping and Phenotyping in Genome-Wide Association Studies
doi: 10.1162/biot.2009.4.3.294
Biological Theory 2009

2008

41. Israel Steinfeld, Roy Navon, Diego Ardigò, Ivana Zavaroni, **Zohar Yakhini**,
Clinically driven semi-supervised class discovery in gene expression data,
doi: 10.1093/bioinformatics/btn279
ECCB 2008 (conference version) and *Bioinformatics* 2008
42. Shlomit Farkash-Amar, Doron Lipson, Andreas Polten, Alon Goren, Charles Helmstetter, **Zohar Yakhini**, Itamar Simon,

- Global organization of replication time zones of the mouse genome,
doi: 10.1101/gr.079566.108
Genome Research 2008
43. Perry, Ben-Dor, Tsalenko, Sampas, Rodrigez-Revenga, Tran, Scheffer, Steinfeld, Tsang, Yamada, park, Kim, Seo, **Yakhini**, Bruhn, Laderman, Lee,
The fine-scale and complex architecture of human copy-number variation
doi: 10.1016/j.ajhg.2007.12.010
Am J of Human Genetics 2008
44. Rønneberg, Tost, Solvang, Alnaes, Johansen, Brendeford, **Yakhini**, Gut, Lonning, Borresen-Dale, Gabrielsen, Kristensen,
GSTP1 promoter haplotypes affect DNA methylation levels and promoter activity in breast carcinomas,
doi: 10.1158/0008-5472.CAN-07-5828
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45. de-Smith, Walters, Coin, Steinfeld, **Yakhini**, Sladek, Froguel, Blakemore
Small deletion variants have stable breakpoints commonly associated with alu elements
doi: 10.1371/journal.pone.0003104
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46. Eran Eden, Doron Lipson, Sivan Yogev, and **Zohar Yakhini**,
A Novel Approach to Motif Discovery with Applications in Transcription Factor Binding and Methylation Data Analysis.
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PLoS Computational Biology 2007.
47. Dehan, Ben-Dor, Liao, Lipson, Frimer, Reinstein, Simansky, Krupsky, Yaron, Friedman, Rechavi, Perlman, Aviram-Goldring, Izraeli, Bittner, **Yakhini**, Kaminski,
Chromosomal aberrations and gene expression profiles in non-small cell lung cancer,
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Lung Cancer 2007.
48. Oleg Rokhlenko , Ydo Wexler , **Zohar Yakhini**,
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doi: 10.1093/bioinformatics/btl308
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49. Doron Lipson , **Zohar Yakhini** , Yonatan Aumann,
Optimization of probe coverage for high-resolution oligonucleotide aCGH,
doi: 10.1093/bioinformatics/btl316
ECCB 2006 (conference version) and *Bioinformatics* 2007.
50. Schlesinger Y., Straussman R., Keshet I., Farkash S., Hecht M., Zimmerman J., Eden E., **Yakhini Z.**, Ben-Shushan E., Reubinoff B., Bergman Y., Simon I., and Cedar H.
Polycomb-mediated histone H3(K27) methylation pre-marks genes for de novo methylation in cancer.
doi: 10.1038/ng1950
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51. de Smith, Tsalenko, Sampas, Scheffer, Yamada, Tsang, Ben-Dor, **Yakhini**, Ellis, Bruhn, Laderman, Froguel, Blakemore,
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- males: implications for association studies of complex diseases
doi: 10.1093/hmg/ddm208
Human Molecular genetics 2007
52. Nachtomy O, Shavit A, **Yakhini Z**
Gene expression and the concept of the phenotype
doi: 10.1016/j.shpsc.2006.12.014
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53. Yosef, **Yakhini**, Tsalenko, Kristensen, Børresen-Dale, Ruppim, Sharan,
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doi: 10.1093/bioinformatics/btl298
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RECOMB 2005 (conference version) and *Journal of Computational Biology* 2006.
55. Chaya Ben-Zaken Zilberstein, Michal Ziv-Ukelson, Ron Pinter, **Zohar Yakhini**,
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57. Deng, Tsalenko, Vailaya, Ben-Dor, Kundu, Estay, Tabibazar, Kincaid, **Yakhini**, Bruhn, Quertermous,
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58. Deng, Spin, Tsalenko, Vailaya, Ben-Dor, **Yakhini**, Tsao, Bruhn, Quertermous
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Arteriosclerosis, thrombosis, and vascular biology 2006
59. Tsalenko, Sharan, Kristensen, Edvardsen, Børresen-Dale, Ben-Dor, **Yakhini**
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doi: 10.1109/CSB.2005.14
Journal of Bioinformatics and Computational Biology 2006
60. Kristensen, Tsalenko, Geisler, Faldaas, Grenaker, Lingjærde, Fjeldstad, **Yakhini**, Lonning, Borresen-Dale
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61. R. Kincaid, A. Ben-Dor, **Z. Yakhini**,
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Information Visualization 2005
62. Y. Wexler, **Z. Yakhini**, Y. Kashi, D. Geiger,
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doi: 10.1089/cmb.2005.12.928
RECOMB 2004 (conference version) and *J Comput Biol.* 2005.
63. Yonatan Aumann, Efrat Manisterski, **Zohar Yakhini**,
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doi: 10.1016/j.jcss.2004.12.004
WABI 2003 (conference version) and *J. Comput. Syst. Sci.* 2005.
64. Roded Sharan, Jens Gramm, **Zohar Yakhini**, Amir Ben-Dor,
Multiplexing Schemes for Generic SNP Genotyping Assays,
doi: 10.1089/cmb.2005.12.514
PSB 2004 (conference version) and *J of Comp Bio* 2005.
65. Levy, Gilad, Xia, Izumiya, Choi, Tsalenko, **Yakhini**, Witter, Lee, Cardona, Kung,
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converging transforming pathway for avian oncoviruses.
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PNAS 2005
66. Jennifer Y. King, Rossella Ferrara, Raymond Tabibiazar, Joshua M. Spin, Mary
M. Chen, Allan Kuchinsky, Aditya Vailaya, Robert Kincaid, Anya Tsalenko, David Xing-
Fei Deng, Andrew Connolly, Peng Zhang, Eugene Yang, Clifton Watt, **Zohar Yakhini**,
Amir Ben-Dor, Annette Adler, Laurakay Bruhn, Philip Tsao, Thomas Quertermous, Euan A. Ashley
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67. Amir Ben-Dor, Tzvi Hartman, Richard M. Karp, Benno Schwikowski, Roded Sharan, **Zohar Yakhini**,
Towards Optimally Multiplexed Applications of Universal Arrays.
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RECOMB 2003 (conference version) and *Journal of Computational Biology* 2004
68. Barrett MT, Scheffer A, Ben-Dor A, Sampas N, Lipson D, Kincaid R, Tsang P, Curry B, Baird K, Meltzer
PS, **Yakhini Z**, Bruhn L, Laderman S.
Comparative genomic hybridization using oligonucleotide microarrays and total genomic DNA,
doi: 10.1073/pnas.0407979101
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69. Amir Ben-Dor, Benny Chor, Richard M. Karp, **Zohar Yakhini**,
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RECOMB Test of Time Award 2014

70. Chen MM, Ashley EA, Deng DX, Tsalenko A, Deng A, Tabibiazar R, Ben-Dor A, Fenster B, Yang E, King JY, Fowler M, Robbins R, Johnson FL, Bruhn L, McDonagh T, Dargie H, **Yakhini Z**, Tsao PS, Quertermous T. ,
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78. M. Bittner, P Meltzer, Y. Chen, Y. Jiang, E. Seftor, M. Hendrix, M. Radmacher, R. Simon,
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Selected Refereed Conference Papers

(only includes papers for which there is no journal version or where one is in the works)

1. Ilona Kifer, Rui M Branca, Ping Xu, Amir Ben-Dor, Janne Lehtio, **Zohar Yakhini**,
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doi: 10.1109/BIBM.2014.6999136
IEEE Conf on Bioinformatics and Biomedicine 2014.
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2. Ben-Dor, Lipson, Tsalenko, Reimers, Baumbusch, Barrett, Weinstien, Borresen-Dale, **Yakhini**,
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Using Expression Data to Discover RNA and DNA Regulatory Sequence Motifs.
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4. Doron Lipson, Amir Ben-Dor, Elinor Dehan, **Zohar Yakhini**,
Joint Analysis of DNA Copy Numbers and Gene Expression Levels,
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5. Anna Tsalenko, Amir Ben-Dor, Nancy Cox, **Zohar Yakhini**,
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6. Ari Frank, Dan Geiger, **Zohar Yakhini**,
A Distance-Based Branch and Bound Feature Selection Algorithm
URL: [arXiv:1212.2488](http://arxiv.org/abs/1212.2488)
UAI 2003
7. Doron Lipson, Peter Webb, **Zohar Yakhini**
Designing Specific Oligonucleotide Probes for the Entire *S. cerevisiae* Transcriptome
doi: 10.1007/3-540-45784-4_38
WABI 2002
8. Nir Friedman, **Zohar Yakhini**
On the sample complexity of learning Bayesean networks
URL: <https://dslpitt.org/uai/papers/96/p274-friedman.pdf>
UAI 1996

Ph.D. Thesis

“Billiard Approximations to Brownian Motion”,
Stanford University 1997

Patents

1. Sampas, Curry, Tsang, Lipson, **Yakhini**,
Probe design methods and microarrays for comparative genomic hybridization and location analysis.
US patent number 8,036,835 issued Oct 2011.
2. Sampson, Myerson, Tsalenko, Sampas, Webb, **Yakhini**
Method and reagents for analyzing the nucleotide sequence of nucleic acids
US patent # 7,399,844 issued Jul 2008
3. **Yakhini**, Sampson, Myerson
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11. Jeffery R Sampson, Peter Webb, **Zohar Yakhini**, Anna Tsalenko, Nicholas M Sampas, Joel Myerson
Method and mixture reagents for analyzing the nucleotide sequence of nucleic acids by mass spectrometry.
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12. **Zohar Yakhini**, Peter Webb, Ron M Roth
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Invited Talks

1. Institute Pasteur Colloquium Lecture, Paris Feb 2016
2. Simons Institute Workshop on Challenges in Computational Cancer Biology, Berkeley 2016
3. Bellairs workshop on breast cancer genomics and informatics, organized by McGill Univ. Bellairs, Barbados, 2005 and 2015
4. "Bioinformatics and molecular measurement", The 15th meeting of the Israeli Society of Bioinformatics and Computational Biology, Beer-Sheva, Israel, 2013,
5. "miRNA data analysis", ESF RNA Bioinformatics Workshop, Antalya, Turkey 2008
6. "Comparative Genomic Hybridization and Related Computational Aspects", GENSIPS 2006.
7. "Microarrays: evolving applications, evolving interpretations", in the 2005 Annual Israeli Bioinformatics Symposium, Ben Gurion Univ, May 2005.
8. Tel-Hai Bioinformatics Workshop, Tel-Hai, Israel 2005.
9. "Variation in mRNA expression levels: the role of sequence motifs and of DNA copy number", The First Annual RECOMB Satellite Workshop on Regulatory Genomics, UCSD, San Diego, USA, 2004.
10. The Design and Application of Microarray Hybridization Assays: the Computational Viewpoint, Bertinoro Computational Biology Meeting, Bertinoro, Italy 2003.
11. "Microarrays: From the Inkjet Head to the Doctor's Office", Israel Biotechnology Conference, Tel Aviv, May 2003.
12. "Interpretation and Evaluation of Gene Expression Data", in ISAC XX, Montpellier, France, 2000.
13. "Analysis of Gene Expression Data: Clustering and Beyond", in Nature Genetics Microarray Meeting, Arizona, USA 1999.