

Curriculum Vitae

Eran Halperin

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Affiliation:

Professor, Department of Computer Science, University of California, Los Angeles (UCLA)
Professor, Department of Anesthesiology, University of California, Los Angeles (UCLA)

Research areas:

Computational Biology, Genomics, Epigenomics, Statistical Genetics, Population Genetics, , Algorithms, Machine Learning.

Education:

- 1997-01 **Ph.D. in Computer Science**, Tel-Aviv University.
Thesis: *Approximation algorithms for optimization problems*.
Advisor: Prof. Uri Zwick.
- 1993-96 **M.Sc. in Computer Science**, Tel-Aviv University (Summa Cum Laude).
Thesis: *Bipartite subgraphs of integer weighted graphs*.
Advisor: Prof. Noga Alon.
- 1990-93 **B.Sc. in Mathematics and Computer Science**, Tel-Aviv University (Summa Cum Laude),

Experience

Academic Research Positions:

- 2016-now **Professor**, Computer Science and Anesthesiology, University of California, Los Angeles (UCLA)
- 2011-2016 **Associate Professor**, Blavatnik School of Computer Science, and the Department of Molecular Microbiology and Biotechnology, **Tel-Aviv University**.
- 2004-2016 **Senior Research Scientist** at the International Computer Science Institute (**ICSI, Berkeley**).
- 2008-2011 **Senior Lecturer**, Blavatnik School of Computer Science, and the Department of Molecular Microbiology and Biotechnology, **Tel-Aviv University**.
- 2003-2004 **Research Associate** at the Computer Science department of **Princeton** University.
- 2001-03 **Post doc** at the Computer Science department of the University of California in **Berkeley**, and at the International Computer Science Institute (**ICSI**).
Hosts: Richard Karp, Christos Papadimitriou, Satish Rao, Alistair Sinclair.
- July-August 2000 **Summer intern** in **AT&T research labs**, Florham Park, New Jersey.
Mentor: Edith Cohen.

Positions in the industry:

07/11-present **Scientific Advisory Board** in **Genia Technologies** (nanopores sequencing technologies)

05/12-present **Computational Advisory Board** in **DNA Nexus**

10/12-10/13 **Scientific Advisory Board** in **Gene by Gene**

07/07-12/08 **Director of Bioinformatics** in **Navigenics, Inc.** (genetic testing)

06/97-02/00 **Bioinformatics Scientist at the Algorithms group** in **Compugen LTD.**

1993-96 Programmer in the Israeli Defense Forces.

Consulting in the past for: **Intel** (optimization, algorithms), **Invitae** (genetic testing), **Occam Law** (text mining), **Evogene** (agriculture genetics), **Micromedic** (statistical genetics analysis)

Funding

1. Computational Methods for the Analysis of Methylation Data, **Blavatnik Research Fund**, \$50,000, period: 10/2015-10/2016.
2. Analytical method development for investigating the role of the X chromosome in population genetics and disease, **NIH** (Subcontract from Alon Keinan, Cornell). Total award: \$63,358, 2014-2016.
3. Methods for the Analysis of Rare Variants in Disease DNA-Sequencing Studies, **ISF** (Leading PI). Total award: \$264,000, 2013-2017.
4. Methods for preprocessing population sequence data, Binational Science Foundation, **BSF** and the **Gilbert Foundation** (Leading PI with Eleazar Eskin). Total award: \$197,600, 2013-2017.
5. Reqsequencing and Functional Studies, **NIH** (subcontract). Total subcontract award: \$303,780, period: 10/2011-9/2015.
6. Combinatorial Optimization Methods for Problems in Molecular Biology and Genetics, **NSF**: Award no. 1217615, \$497,380, period: 9/1/2012 - 8/31/2014.
7. Integrated Analysis of Novel Molecular Diagnostic Markers for Type 2 Diabetes, German Israeli Foundation, **GIF** (leading PI with Thomas Illig). Total award: 199,800 Euros, period: 1/2012-12/2014.
8. Open Collaborative Research. **IBM** (PI, together with Ron Shamir and Saharon Rosset). Total award: \$132,000, period: 10/2010-10/2012.
9. Efficient Design and Analysis of Disease Association Studies, Israeli Science Foundation, **ISF**. Total award: \$223,640, period: 10/2008-10/2012.
10. Genome-wide Association Study of Non-Hodgkin's Lymphoma, **NIH**: R01 (subcontract). Leading PI: Christine Skibola (UC Berkeley). Total subcontract award: \$127,704., period: 08/01/2006-07/31/2011
11. Estimating Haplotype Frequencies, **NSF**: IIS-0513599 (leading PI). Total award: \$603,773, period: 09/15/2005-08/31/2008.

12. Population Stratification Methods, **NSF**: IIS-0713254 (leading PI). Total award: \$449,962, period: 08/15/2007-07/31/2009.

Awards and Honors:

- 2014 The **Juludan Research Fund Prize**
- 2012 Chosen by The Marker Magazine (Israeli business magazine) as one of the **40 promising Israelis younger than 40**.
- 2010 The Raymond and Beverly Sackler **Career Development Chair**.
- 2010 The **Krill** prize for excellence in scientific research.
- 2001 The **Rothschild** fellowship (for post-doc).
- 2000 The **Intel** prize (for Ph.D.), Tel-Aviv University.
- 2000 The **Checkpoint** prize (for Ph.D.), Tel-Aviv University.
- 1999 The **Maus** prize (for Ph.D.), Tel-Aviv University.
- 1993 24th in the **Putnum** mathematics competition.
- 1991-92 Prize of excellence in the 32nd and in the 33rd Grossman mathematics Olympics of the Israel Institute of Technology, the Technion.

Academic Activities:

1. Scientific committees (Recent activity):

- Steering Committee, RECOMB-SEQ, 2016.
- Organizing Committee, UCLA Computational Genomics Summer Institute (CGSI), 2016
- Program Committee, RECOMB, 2016
- Program Committee, RECOMB-Genetics, 2016
- Steering Committee, RECOMB-SEQ, 2015.
- Program Committee: RECOMB, 2015
- Organizer: Bertinoro Computational Biology, 2014.
- Scientific program area chair: The 22nd International Conference on Intelligent Systems for Molecular Biology (ISMB), 2014.
- Steering committee member: RECOMB-SEQ, 2014.
- Steering committee: RECOMB-SEQ, 2013.
- Program area Chair: The 20th International Conference on Intelligent Systems for Molecular Biology (ISMB) 2012.
- Program committee: The 16th Annual International Conference on Research in Computational Molecular Biology (RECOMB), 2012.
- Program committee: RECOMB-SEQ, 2012.
- Program committee: RECOMB-AB, 2012.
- Program area Chair: The 19th International Conference on Intelligent Systems for Molecular Biology (ISMB) 2011.

- Program committee: The 15th Annual International Conference on Research in Computational Molecular Biology (RECOMB), 2011.
- Program area Chair: The 18th International Conference on Intelligent Systems for Molecular Biology (ISMB) 2010.
- Program committee: The 14th Annual International Conference on Research in Computational Molecular Biology (RECOMB), 2010.
- Program committee: The 13th Annual International Conference on Research in Computational Molecular Biology (RECOMB), 2009.

2. Editorial Board

- 2013-2015, Editorial Board member, **Genetics Research**.

3. Invited speaker

- 2016 Invited Speaker at the Annual meeting of the Israeli Statistical Association
- 2016 Invited speaker at the Waterman Symposium, Los Angeles.
- 2015 Invited speaker at the biennial conference of the Cancer Biology Research Center (CBRC) meeting.
- 2015 Invited speaker at the Genetics Society of Israel meeting, Weizmann Institute.
- 2015 Invited speaker at the 'Studying Human Evolution from Ancient DNA' workshop, Hebrew University.
- 2015 Invited speaker at the Bertinoro Computational Biology meeting.
- 2014 Invited speaker at the Workshop for Bioinformatics and Genetics, Israel Statistical Association
- 2014 Invited speaker at the AAAS annual meeting.
- 2014 Invited speaker at the Simons Institute workshop: Computation-Intensive Probabilistic and Statistical Methods for Large-Scale Population Genomics.
- 2013 Invited speaker at the Israeli Human Identification Meeting.
- 2012 Invited speaker at the Israeli Machine Learning day.
- 2011 Invited speaker for the tutorials and the workshops at the high-throughput genomics long program at IPAM in UCLA.
- 09/2010 **Invited keynote speaker** at the 10th Workshop on Algorithms in Bioinformatics (WABI), Liverpool, England.
- 05/2010 **Invited keynote speaker** at the Conference on Algorithms and COMplexity (CIAC), Italy.
- 11/2009 **Invited keynote speaker** at the Jornadas de Bioinformtica (JB).
- 05/2009 **Invited keynote speaker** at the 13th Annual International Conference on Research in Computational Molecular Biology (RECOMB)
- 02/2009 Invited speaker for The Future of Genomics Medicine II, Scripps Institute, San Diego, CA.
- 08/2008 Invited speaker in DIMACS Workshop on Computational Issues in Genetic Epidemiology, Rutgers University.
- 06/2008 The Future of Personalized Medicine. **Invited keynote speaker** at the Japan Bioexpo, 2008.
- 07/2006 **Invited keynote speaker** for the 17th Annual Symposium on Combinatorial Pattern Matching (CPM 2006), Barcelona.

Students:

MSC

- 2009-2012 Tal Efros, M.Sc., Computer Science, Tel-Aviv University
- 2009-2012 Oron Navon, M.Sc., Bioinformatics track, Life Sciences, Tel-Aviv University
- 2009-2012 Yael Baran, MSc., Bioinformatics track, Computer Science, Tel-Aviv University
- 2010-2013 Noam Mamet (joint supervision with Prof. Uri Gophna), M.Sc., Mathematical Biology track, Life Sciences, Tel-Aviv University
- 2011-2013 Itamar Eskin , (joint supervision with Dr. Yoel Shkolnisky), M.Sc., Applied Math, Tel-Aviv University
- 2011-2014 Yaara Arkin, M.Sc., Bioinformatics track, Computer Science, Tel-Aviv University
- 2011-2015 Yaron Margalit, M.Sc. , Computer Science, Tel-Aviv University
- 2012-2014 Doron Shem-Tov, MSc, Computer Science, Tel-Aviv University.
- 2013-2016 Goor Sasson, (joint supervision with Prof. Itzhak Mizrahi, Volcani), MSc candidate, Life Sciences, Tel-Aviv University
- 2013-2016 Elior Rahmani, MSc candidate, Computer Science, Tel-Aviv University.
- 2015-now Gal Hayms (joint supervision with Dr. Itay Mayrose), MSc candidate, Life Sciences, Tel-Aviv University.

PhD

- 2012-2016 Yael Baran, PhD candidate, Computer Science, Tel-Aviv University
- 2011-now Roye Rozov (joint supervision with Prof. Ron Shamir), Ph.D. candidate (joint supervision with Prof. Ron Shamir), Computer Science, Tel-Aviv University.
- 2013-now Regev Schweiger, PhD candidate, Computer Science, Tel-Aviv University.
- 2016-now Elior Rahmani, PhD candidate, Computer Science, Tel-Aviv University
- 2016-now Liat Shenhav, PhD candidate, Computer Science, Tel-Aviv University
- 2016-now Goor Sasson, (joint supervision with Prof. Itzhak Mizrahi, BGU), PhD candidate, Life Sciences, Ben-Gurion University

Post-docs

- 2006-2008 Dr. Gad Kimmel, Post-doc, International Computer Science Institute
- 2007-2008 Dr. Lucia Conde, Post-doc, International Computer Science Institute (currently at University College London)
- 2008-2009 Dr. Bogdan Pasaniuc, Post-doc, International Computer Science Institute (currently an assistant professor at UCLA medical school).
- 2009-2009 Dr. Noah Zaitlen, Post-doc, Tel-Aviv University. (currently an assistant professor at UCSF medical school).
- 2014-now Dr. Yedael Waldman, Post-doc

Teaching (last five years):

2015-16 Advanced seminar in Bioinformatics
2015-16 Introduction to Machine Learning
2015-16 Introduction to Data Structure
2015-16 Introduction to Bioinformatics
2014-15 Advanced seminar in Bioinformatics
2014-15 Introduction to Machine Learning
2014-15 Introduction to Bioinformatics
2014-15 Computational Human Genetics
2013-14 Advanced seminar in Bioinformatics
2013-14 Introduction to Data Structure
2013-14 Introduction to Machine Learning
2013-14 Introduction to Bioinformatics
2012-13 Advanced seminar in Bioinformatics
2012-13 Workshop on Genome Assmbly
2012-13 Computational Human Genetics
2012-13 Introduction to Bioinformatics
2011-12 Advanced seminar in Bioinformatics
2011-12 Introduction to Data Structure
2011-12 Computational Human Genetics
2011-12 Seminar in Computational Genetics
2011-12 Introduction to Bioinformatics

Publication List

Journal papers:

1. Waldman, Yedaël Y., Arjun Biddanda, Maya Dubrovsky, Christopher L. Campbell, Carole Oddoux, Eitan Friedman, Gil Atzmon, Eran Halperin, Harry Ostrer, and Alon Keinan. "The genetic history of Cochin Jews from India." **Human Genetics** 135, no. 10 (2016): 1127-1143
2. Schweiger, Regev, Shachar Kaufman, Reijo Laaksonen, Marcus E. Kleber, Winfried Mrz, Eleazar Eskin, Saharon Rosset, and Eran Halperin. *Fast and accurate construction of confidence intervals for heritability.*, **The American Journal of Human Genetics**, 98.6 (2016): 1181-1192.
3. Elior Rahmani, Noah Zaitlen, Yael Baran, Celeste Eng, Donglei Hu, Joshua Galanter, Sam Oh, Esteban G. Burchard, Eleazar Eskin, James Zou, and Eran Halperin, *Sparse PCA Corrects for Cell-Type Heterogeneity in Epigenome-Wide Association Studies*, **Nature Methods**, 13.5 (2016): 443-445.
4. Waldman, Yedaël Y., et al. *The genetics of Bene Israel from India reveals both substantial Jewish and Indian ancestry*, **PLoS One**, online advanced publication, March 24, 2016.
5. Paula Singmann, Doron Shem-Tov, Simone Wahl, Harald Grallert, Giovanni Fiorito, So-Youn Shin, Katharina Schramm, Petra Wolf, Sonja Kunze, Yael Baran, Simonetta Guarrera, Paolo Vineis, Vittorio Krogh, Salvatore Panico, Rosario Tumino, Anja Kretschmer, Christian Gieger, Annette Peters, Holger Prokisch, Caroline L. Relton, Giuseppe Matullo, Thomas Illig, Melanie Waldenberger, Eran Halperin, *Characterization of whole-genome autosomal differences of DNA methylation between men and women*, **Epigenetics & Chromatin**, 2015, 8:43 (19 October 2015).
6. James Y. Zou, Danny S Park, Esteban G Burchard, Dara G Torgerson, Maria Pino-Yanes, Yun S. Song, Sriram Sankararaman*, Eran Halperin*, Noah Zaitlen*, *A genetic and socio-economic study of mate choice in Latinos reveals novel assortment patterns*, **Proceedings of the National Academy of Science**, 112.44 (2015): 13621-13626.
* Equal contribution
7. Baran, Yael, and Eran Halperin, *A Note on the Relations Between Spatio-Genetic Models*, **Journal of Computational Biology**, October 2015, 22(10): 905-917, 2015.
8. Zou, J. Y., Eran Halperin, Burchard, E., and Sankararaman, S., *Inferring parental genomic ancestries using pooled semi-Markov processes*, **Bioinformatics**, 31 (12) : i190-i196, 2015 (Special issue of **ISMB**, 2015).
9. Rozov, Roye, Ron Shamir, and Eran Halperin, *Fast lossless compression via cascading Bloom filters* **BMC bioinformatics** 15.Suppl 9 (2014): S7. (Special issue of **RECOMB-SEQ**, 2014).
10. Yaara Arkin, Elior Rahmani, Marcus E. Kleber, Reijo Laaksonen, Winfried Marz and Eran Halperin, *EPIQ efficient detection of SNPSNP epistatic interactions for quantitative traits*, **Bioinformatics**, 30 (12): i19-i25, 2014. (Special issue of **ISMB**, 2014).

11. Doron Shem-Tov and Eran Halperin, *Historical Pedigree Reconstruction from Extant Populations Using PARTITIONING of RELATIVES (PREPARE)*. **PLoS Comput Bio**, 10(6): e1003610. doi:10.1371/journal.pcbi.1003610, 2014.
12. Catherine A Brownstein, . . . , Eran Halperin, . . . , David M Margulies, *An international effort towards developing standards for best practices in analysis, interpretation and reporting of clinical genome sequencing results in the CLARITY Challenge*, **Genome biology**, 15.3: R53, 2014.
13. Itamar Eskin, Farhad Hormozdiari, Lucia Conde, Chris Skibola, Jacques Riby, Eleazar Eskin and Eran Halperin, *eALPS: Estimating Abundance Levels in Pooled Sequencing Using Available Genotyping Data*, **Journal of Computational Biology**, 2013 Nov;20(11):861-77. (Special issue of **RECOMB**, 2013).
14. Baran Y, Quintela I, Carracedo A, Pasaniuc B, Halperin E. *Enhanced Localization of Genetic Samples through Linkage-Disequilibrium Correction.*, **American Journal of Human Genetics**, 2013.
15. Gymrek M, McGuire AL, Golan D, Halperin E, Erlich Y., *Identifying personal genomes by surname inference*, **Science**, Jan 18;339(6117):321-4, 2013.
16. Navon O, Sul JH, Han B, Conde L, Bracci P, Riby J, Skibola CF, Eskin E, Halperin E. *Rare Variant Association Testing Under Low-Coverage Sequencing*, **Genetics**, 2013.
17. Ronen R, Udpa N, Halperin E, Bafna V, *Learning Natural Selection from the Site Frequency Spectrum*, **Genetics**. 2013 Jun 14.
18. Pasaniuc B, Sankararaman S, Torgerson DG, Gignoux C, Zaitlen N, Eng C, Rodriguez-Cintron W, Chapela R, Ford JG, Avila PC, Rodriguez-Santana J, Chen GK, Le Marchand L, Henderson B, Reich D, Haiman CA, Gonzalez Burchard E, Halperin E., *Analysis of Latino populations from GALA and MEC studies reveals genomic loci with biased local ancestry estimation*, **Bioinformatics**,. 2013 Jun 1;29(11):1407-1415.
19. de Boer SP, Cheng JM, Garcia-Garcia HM, Oemrawsingh RM, van Geuns RJ, Regar E, Zijlstra F, Laaksonen R, Halperin E, Kleber ME, Koenig W, Boersma E, Serruys PW, *Relation of genetic profile and novel circulating biomarkers with coronary plaque phenotype as determined by intravascular ultrasound: rationale and design of the ATHEROREMO-IVUS study*, **EuroIntervention**. 2013 Aug 26. doi:pil: 20130113-01
20. Zhanyong Wang, Farhad Hormozdiari, Wen-Yun Yang, Eran Halperin, Eleazar Eskin, *CNVeM: Copy Number Variation Detection Using Uncertainty of Read Mapping*, **Journal of Computational Biology**, 2013 Mar; 20(3):224-36. (Special issue of **RECOMB**, 2012).
21. Osvaldo Zagordi, Armin Tpfers, Sandhya Prabhakaran, Volker Roth, Eran Halperin, Niko Beerenwinkel, *Probabilistic Inference of Viral Quasispecies Subject to Recombination*, **Journal of Comput Biol**, 2013 Feb;20(2):113-23. (Special issue of **RECOMB**, 2012).
22. Yang WY, Novembre J, Eskin E, Halperin E, *A model-based approach for analysis of spatial structure in genetic data*, **Nature Genetics**, 20;44(6):725-31, 2012.

23. Baran, Yael and Pasaniuc, Bogdan and Sankararaman, Sriram and Torgerson, Dara G. and Gignoux, Christopher and Eng, Celeste and Rodriguez-Cintron, William and Chapela, Rocio and Ford, Jean G. and Avila, Pedro C. and Rodriguez-Santana, Jose and Burchard, Esteban Gonzalez and Halperin, Eran, *Fast and accurate inference of local ancestry in Latino populations*, **Bioinformatics**, 28 (10), 1359-1367, (2012).
24. Efros Anatoly, Halperin Eran. *Haplotype reconstruction using perfect phylogeny and sequence data*, **BMC Bioinformatics**. 2012 Apr 19;13 Suppl 6:S3.
25. Rozov Roye, Halperin Eran, Shamir Ron., *MGMR: leveraging RNA-Seq population data to optimize expression estimation*, **BMC Bioinformatics**. 2012 Apr 19;13 Suppl 6:S2
26. Baran Yael, Halperin Eran, *Joint analysis of multiple metagenomic samples*, **PLoS Computational Biology**, 2012 Feb;8(2):e1002373.
27. Slager SL, et a., *Common variation at 6p21.31 (BAK1) influences the risk of chronic lymphocytic leukemia*, **Blood**, 120(4):843-6, 2012.
28. Bonnie Kirkpatrick, Shuai Cheng Li, Richard M. Karp and Eran Halperin, *Pedigree Reconstruction Using Identity by Descent*, **Journal of Computational Biology**, 18.11 (2011): 1481-1493.
29. Conde L, Bevan S, Sitzler M, Klopp N, Illig T, Thiery J, Seissler J, Baumert J, Raitakari O, Khnen M, Lyytikinen LP, Laaksonen R, Viikari J, Lehtimki T, Koernig W, Halperin E, Markus HS, *Novel associations for coronary artery disease derived from genome wide association studies are not associated with increased carotid intima-media thickness, suggesting they do not act via early atherosclerosis or vessel remodeling*, **Atherosclerosis**, 2011 Dec;219(2):684-9.
30. Salton M, Elkon R, Borodina T, Davydov A, Yaspo ML, Halperin E, Shiloh Y, *Matrin 3 binds and stabilizes mRNA*, **PLoS One**, 6(8), pages 1-7, 2011.
31. Wang J, Geesman GJ, Hostikka SL, Atallah M, Blackwell B, Lee E, Cook PJ, Pasaniuc B, Shariat G, Halperin E, Dobke M, Rosenfeld MG, Jordan IK, Lunyak VV, *Inhibition of activated pericentromeric SINE/Alu repeat transcription in senescent human adult stem cells reinstates self-renewal*, **Cell Cycle**. Sep 1;10(17), 3016-3030, 2011.
32. Lucia Conde, Paige Bracci, Eran Halperin, and Christine F. Skibola, *A search for overlapping susceptibility loci between non-Hodgkin lymphoma and autoimmune diseases*, **Genomics**, Jul;98(1):9-14, 2011.
33. Dan He, Noah Zaitlen, Bogdan Pasaniuc, Eleazar Eskin, and Eran Halperin, *Genotyping common and rare variation using overlapping pool sequencing*, **BMC Bioinformatics**, 12(Suppl 6):S2, 1-8, 2011.
34. Bogdan Pasaniuc, Noah Zaitlen and Eran Halperin, *Accurate estimation of expression levels of homologous genes in RNA-seq experiments*, **Journal of Computational Biology**, Mar; 18(3):459-68, 2011. (Special issue of **RECOMB**).
35. Amir Kovacs, Noa Ben-Jacob, Hanna Tayem, Eran Halperin, Fuad A. Iraqi and Uri Gophna, *Genotype is a Stronger Determinant than Sex of the Mammalian Gut Microbiota*, **Microbial Ecology**, Feb;61(2):423-428, 2011.

36. Badri Padhukashashasram, Eran Halperin, Jennifer Wessel, Daryl Thomas, Elana Silver, Heather Trumbower, Michelle Cargill, Dietrich Stephan, *Presymptomatic risk assessment for chronic non-communicable diseases*, **Plos One**, Dec 31;5(12):e14338, pages 1-15, 2010.
37. Bogdan Pasaniuc, Ram Avinery, Tom Gur, Christine F. Skibola, Paige M. Bracci, and Eran Halperin, *A Generic Coalescent-based Method for the Selection of a Reference Panel for Imputation*, **Genetic Epidemiology**, 34(8):773-82, 2010.
38. Roy Ronen, Ido Gan, Shira Modai, Alona Sukacheov, Gideon Dror, Eran Halperin and Noam Shomron, *miRNAkey: a software for microRNA deep sequencing analysis*, **Bioinformatics**, 26 (20), 2615-2616, 2010.
39. Lucia Conde, Eran Halprein, et al., *Genome-wide association study of follicular lymphoma identifies a risk locus at 6p21.32*, **Nature Genetics**, 42(8), 661-664, 2010.
40. Bonnie Kirkpatrick, Eran Halperin, and Richard Karp, *Haplotype inference in complex pedigrees*, **Journal of Computational Biology**, Mar;17(3):269-80, 2010. (special issue of **RECOMB**).
41. O. Davidovich, G. Kimmel, E. Halperin, R. Shamir, *Increasing the Power of Association Studies by Imputation-based Sparse Tag SNP Selection*, **Communications in Information and Systems**, 9 (3) 269-282 (2009).
42. Noah Zaitlen, Bogdan Pasaniuc, Tom Gur, Elad Ziv, Eran Halperin, *Leveraging genetic variability across populations for the identification of causal variants*, **The American Journal of Human Genetics**, 2010 Jan; 86(1):23-33.
43. Bracci PM, Skibola CF, Conde L, Halperin E, Lightfoot T, Smith A, Paynter RA, Skibola DR, Agana L, Roman E, Kane E, Wiencke JK, *Chemokine polymorphisms and lymphoma: a pooled analysis*, **Leuk Lymphoma**, 2010 Mar;51(3):497-506.
44. Lindfors E, Gopalacharyulu PV, Halperin E, Oresic M., *Detection of molecular paths associated with insulinitis and type 1 diabetes in non-obese diabetic mouse*, **Plos One**, 2009 Oct 2;4(10).
45. Sriram Sankararaman, Guillaume Obozinski, Michael I. Jordan, and Eran Halperin, *Genomic Privacy and Limits of Individual Detection in a Pool*, **Nature Genetics**, 41, 965 - 967 (2009).
46. Christine F Skibola, Paige M Bracci, Eran Halperin, Lucia Conde, David W Craig, Luz Agana, Kelly Iyadurai, Nikolaus Becker, Angela Brooks-Wilson, John D Curry, John J Spinelli, Elizabeth A Holly, Jacques Riby, Luoping Zhang, Alexandra Nieters, Martyn T Smith and Kevin M Brown, *Genetic variants at 6p21.33 are associated with susceptibility to follicular lymphoma*, **Nature Genetics**, 41, 873 - 875 (2009)
47. Bogdan Pasaniuc, Sriram Sankararaman, Gad Kimmel and Eran Halperin, *Inference of Locus-Specific Ancestry in Closely Related Populations*, **Bioinformatics**, 2009 Jun 15;25(12):i213-21.
48. Eran Halperin and Dietrich A. Stephan, *Maximizing power in association studies*, **Nature Biotechnology**, 27(3), 255-6, 2009.

49. Eran Halperin and Dietrich A. Stephan *SNP imputation in association studies*, **Nature Biotechnology**, 27(4), 349-51, 2009.
50. Peddinti V. Gopalacharyulu, Vidya R. Velagapudi, Erno Lindfors, Eran Halperin and Matej Oresic, *Dynamic network topology changes in functional modules predict responses to oxidative stress in yeast*, **Molecular BioSystems**, 2009, DOI: 10.1039/b815347g.
51. Gad Kimmel, Richard M. Karp, Michael I. Jordan, and Eran Halperin, *Association Mapping and Significance Estimation via the Coalescent*, **The American Journal of Human Genetics**, 83(6) pp. 675-683, 2008.
52. Skibola CF, Bracci PM, Halperin E, Nieters A, Hubbard A, Paynter RA, Skibola DR, Agana L, Becker N, Tressler P, Forrest MS, Sankararaman S, Conde L, Holly EA, Smith MT, *Poly-morphisms in the estrogen receptor 1 and vitamin C and matrix metalloproteinase gene families are associated with susceptibility to lymphoma*, **PLoS ONE**, 3(7), 2008.
53. Sriram Sankararaman, Gad Kimmel, Eran Halperin, and Michael I. Jordan, *On the inference of ancestries in admixed populations*, **Genome Research**, 18:668-675, 2008. (special issue of RECOMB, 2008).
54. Sriram Sankararaman, Srinath Sridhar, Gad Kimmel, and Eran Halperin, *LAMP: Local Ancestry in admixed Populations*, **The American Journal of Human Genetics**, Volume 82, Issue 2, 290-303, 2008.
55. Bonnie Kirkpatrick, Carlos Santos Armendariz, Richard M Karp, and Eran Halperin, *HAP-LOPOOL: Improving Haplotype Frequency Estimation through DNA Pools and Phylogenetic Modeling*, **Bioinformatics**, 23(22): 3048-3055 (2007).
56. Gad Kimmel, Michael I. Jordan, Eran Halperin, Ron Shamir and Richard M. Karp, *randomization test for controlling population stratification in whole-genome association studies*, **The American Journal of Human Genetics**, 81:895-905, 2007.
57. Noah Zaitlen, Hyun Min Kang, Eleazar Eskin, and Eran Halperin, *Leveraging the HapMap Correlation Structure in Association Studies*, **The American Journal of Human Genetics**, 80:683-691, 2007.
58. Srinath Sridhar, Kedar Dhamdhere, Guy E. Blleloch, Eran Halperin, R. Ravi, and Russell Schwartz, *Algorithms for Efficient Near-Perfect Phylogenetic Tree Reconstruction in Theory and Practice*, **IEEE/ACM Trans. Comput. Biology Bioinform.** (TCBB) 4(4):561-571 (2007).
59. Kenneth B. Beckman, Kenneth A. Abel, Andreas Braun and Eran Halperin *Using DNA Pools for Genotyping Trios*, **Nucleic Acids Research**, 2006; doi: 10.1093/nar/gkl700.
60. Jonathan Marchini, David Cutler, Nick Patterson, Matthew Stephens, Eleazar Eskin, Eran Halperin , Shin Lin, Steve Qin, Goncalo Abecassis, Heather Munro and Peter Donnelly, *A comparison of phasing algorithms for trios and unrelated individuals*, **American Journal of Human Genetics**, 78 437-450, 2006.
61. Eleazar Eskin, Roded Sharan and Eran Halperin, *Optimally Phasing Long Genomic Regions using Local Haplotype Predictions*, *Journal of Bioinformatics and Computational Biology (JBCB)*, 4, pp. 639-647, 2006.

62. Rajiv Gandhi, Eran Halperin, Samir Khuller, Guy Kortsarz and Aravind Srinivasan, *Improved bounds for vertex cover with hard capacities*, Journal of Computer Systems Sciences (**JCSS**), 72(1):16–33 (2006).
63. Eran Halperin and Elad Hazan, *HAPLOFREQ - Estimating Haplotype Frequencies Efficiently*, special issue of Journal of Computational Biology (**JCB**), March 2006, Vol. 13, No. 2: 481-500. Also appeared in the proceedings of the 9th conference on Research in Computational Biology (**RECOMB**), 2005, 553–568.
64. Noah A. Zaitlen, Hyun Min Kang, Michael L. Feolo, Stephen T. Sherry, Eran Halperin, and Eleazar Eskin, *Inference and analysis of haplotypes from combined genotyping studies deposited in dbSNP*, **Genome Research**, 2005, 15:1594-1600.
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