

SERDAR BOZDAG

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EDUCATION

PhD in Computer Science, University of California, Riverside *Sep 2003 – Aug 2008*
Dissertation Title: “*Combinatorial Approaches to the Physical Mapping Problem*”
Advisor: Stefano Lonardi, PhD
BS in Computer Engineering, Marmara University, Istanbul, Turkey *Sep 1998 – June 2002*

RESEARCH EXPERIENCE

Postdoctoral Fellow, Neuro-Oncology Branch, National Cancer Institute, National Institutes of Health, Bethesda, MD *Oct 2008 – Present*
Supervisor: Howard A. Fine, MD

- Analyzed high-throughput genomic, genetic, and epigenetic data sets in glioma.
- Developed a tool for reverse engineering gene regulatory networks via parallel programming.
- Involved in developing a web-based tool for assigning glioma patients to specific molecular subtypes.
- Involved in developing a web-based tool for reporting copy number alterations in glioma patients.

Graduate Research Assistant, Department of Computer Science and Engineering, University of California, Riverside *Sep 2005 – Aug 2008*

- Designed and implemented algorithms to construct optimized physical maps from fingerprinted clones.
- Designed and implemented software to compute the minimal tiling path of physical maps.

TEACHING EXPERIENCE

Adjunct Assistant Professor, Biotechnology Studies Program, Graduate School of Management and Technology, University of Maryland University College *Jan 2011 – April 2011*

- Taught an online graduate course named “*Gene Expression Data Analysis*”

Teaching Assistant, Department of Computer Science and Engineering, University of California, Riverside *Sep 2003 – June 2005*

- Courses taught to undergraduates
 - Intermediate Data Structures and Algorithms (3 quarters)
 - Principles of Programming Languages (1 quarter)
 - Textual Databases Design Project (1 quarter)

INDUSTRIAL EXPERIENCE

Software Engineer, Mobipath, Istanbul, Turkey

Feb 2002 – June 2003

- Designed and implemented software based on wireless communication technologies.

Software Engineering Intern, Arcelik AS, Istanbul, Turkey

June 2000 – Aug 2000

- Implemented software to efficiently compute the annual financial report of the company, which has over 11,000 employees worldwide.

PEER-REVIEWED PUBLICATIONS

- A. Li, **S. Bozdag**, S. Wuchty, J. C. Zenklusen, H. A. Fine, “GliomaPredict: A clinically useful tool for assigning glioma patients to specific molecular subtypes”, *BMC Medical Informatics and Decision Making* 2010, 10:38.
- **S. Bozdag**, A. Li, S. Wuchty, H. A. Fine, “FastMEDUSA: A parallelized tool to infer gene regulatory networks”, *Bioinformatics*, 2010, 26 (14) 1792-1793.
- Y. Kotliarov, **S. Bozdag**, H. Chen, S. Wuchty, J. C. Zenklusen, H. A. Fine, “CNARreporter: A computational tool for the generation of clinical reports of genomic alterations”, *BMC Medical Genomics* 2010, 3:11.
- T. J. Close, P. R. Bhat, S. Lonardi, Y. Wu, N. Rostoks, L. Ramsay, A. Druka, N. Stein, J. T. Svensson, S. Wanamaker, **S. Bozdag**, M. L. Roose, M. J. Moscou, S. Chao, R. Varshney, P. Szucs, K. Sato, P. M. Hayes, D. E. Matthews, A. Kleinhofs, G. J. Muehlbauer, J. DeYoung, D. F. Marshall, K. Madishetty, R. D. Fenton, P. Condamine, A. Graner and R. Waugh, "Development and implementation of high-throughput SNP genotyping in barley", *BMC Genomics*, 2009, 10:582.
- **S. Bozdag**, T. J. Close, S. Lonardi, “A compartmentalized approach to the assembly of physical maps”, *BMC Bioinformatics* 2009, 10:217.
- **S. Bozdag**, T. J. Close, S. Lonardi, “Computing the minimal tiling path from a physical map by integer linear programming”, Proceedings of *Workshop on Algorithms in Bioinformatics (WABI'08)*, pp 148-161.
- **S. Bozdag**, T. J. Close, S. Lonardi, “A compartmentalized approach to the assembly of physical maps”, Proceedings of *IEEE International Symposium on Bioinformatics & Bioengineering (BIBE'07)*, pp. 218-225, Boston, MA, 2007.
- **S. Bozdag**, T. J. Close, S. Lonardi, “Selecting the minimal tiling path from a physical map via integer linear programming”, *under review*.
- S. N. Sahu, I. Patel, J. Lewis, **S. Bozdag**, H. N. Cinar, “*Genomic Analysis of Immune Response against Vibrio cholerae Hemolysin in Caenorhabditis elegans*”, *in preparation*.
- **S. Bozdag**, A. Li, M. Baysan, G. Riddick, Y. Kotliarov H. A. Fine, "Age-specific genetic and epigenetic signatures in glioblastoma", *in preparation*.

ABSTRACTS / POSTERS

- T. J. Close, M. Luo, S. Lonardi, M. Alpert, D. Duma, **S. Bozdag**, A. Farmer, G. D. May, S. A. Jackson, Y. Ma, Y. Q. Gu, J. Wu, F. M. You, N. Diop, S. Wanamaker, R. D. Fenton, M. P. Timko, P. A. Roberts, J. D. Ehlers, “*Genome Resources for Cowpea Genotype IT97K-499-35*”, Poster in *Plant and Animal Genomics XIX Conference*, 2011.
- **S. Bozdag**, A. Li, S. Wuchty, H. A. Fine, “*Inferring gene regulatory networks via parallel programming*”, Poster in *3rd joint conference on Systems Biology, Regulatory Genomics, and DREAM – Reverse Engineering Challenges*, 2010.

- A. Li, **S. Bozdag**, S. Wuchty, J. C. Zenklusen, H. A. Fine, “GliomaPredict: A clinically useful tool for assigning glioma patients to specific molecular subtypes”, Poster in *3rd joint conference on Systems Biology, Regulatory Genomics, and DREAM – Reverse Engineering Challenges*, 2010.
- **S. Bozdag**, T. J. Close, S. Lonardi, “A graph-theoretic approach to compute minimal tiling path from a physical map”, *Proceedings of LSS Computational Systems Bioinformatics Conference (CSB’08)*.
- T. J. Close, S. Lonardi, M.C. Luo, J. Dolezel, P. Bhat, K. Madishetty, J. T. Svensson, J. Zheng, Y. Wu, **S. Bozdag**, J. Resnik, S. Wanamaker, R.D. Fenton, M. Moscou, P. Condamine, E. L Rodriguez, M. L Roose, Y. Ma, F. You, J. Bartos, H. Simkova, N. Rostoks, L. Ramsay, D.F. Marshall, R. Waugh, N. Stein, A. Graner, R. Varshney, K. Sato, R. Wing, A. Schulman, ..., B. Steffenson, “Coupling ESTs, SNPs, BACs, Mapping Populations, Flow-Sorting And Synteny To Access The Barley Genome”, Poster in *Plant and Animal Genomes XVII Conference, 2009*.
- **S. Bozdag**, T. J. Close, S. Lonardi, “A Compartmentalized Approach to the Assembly of the Physical Maps”, Poster in *Plant and Animal Genomes XVI Conference, 2008*.
- Y. Ma, H. Witt, R. Naderi, F. M. You, C. X. Wang, K. Madishetty, J. T. Svensson, J. Zheng, P. Condamine, R. Ashgar, S. Wanamaker, P. Bhat, M. Moscou, E. Rodriguez, H. Walia, J. Resnik, **S. Bozdag**, G. J. Muehlbauer, S. Lonardi, T. J. Close, M.C. Luo, “Updates on Contig Assembly with Gene-Containing BACs of Barley”, Poster in *Plant and Animal Genomes XVI Conference, 2008*.
- K. Madishetty, P. Condamine, M. Moscou, J. T. Svensson, J. Zheng, S. Wanamaker, P. Bhat, E. Rodriguez, H. Walia, **S. Bozdag**, J. Resnik, H. Le, S. Heinen, G. H. Muehlbauer, M.C. Luo, T. Jiang, S. Lonardi, H. Witt, F. You, T. J. Close, “Progress on physical mapping of the gene-space of barley”, Abstract in *Plant and Animal Genomes XV Conference, 2007*.
- Y. Ma, H. Witt, R. Naderi, F. M. You, C. X. Wang, K. Madishetty, J. T. Svensson, J. Zheng, P. Condamine, R. Ashgar, S. Wanamaker, P. Bhat, M. Moscou, E. Rodriguez, H. Walia, J. Resnik, **S. Bozdag**, G. J. Muehlbauer, S. Lonardi, T. J. Close, M.C. Luo, “Contig assembly of gene-containing BACs of barley”, Poster in *Plant and Animal Genomes XV Conference, 2007*.
- J. T. Svensson, K. Madishetty, J. Zheng, Jin Xu, P. Condamine, R. Ashgar, S. Wanamaker, P. Bhat, M. Moscou, E. Rodriguez, H. Walia, J. Resnik, H. Le, **S. Bozdag**, H. Witt, F. You, N. Rostoks, R. Waugh, N. Stein, R. Varshney, A. Graner, M.C. Luo, X. Cui, T. Jiang, S. Lonardi, T. J. Close, “Connecting the barley genetic and physical maps for 1000 abiotic stress genes”, Abstract in *Plant and Animal Genomes XIV Conference, 2006*.

INVITED TALKS

-
- “Reverse engineering of gene regulatory networks via parallel programming”, *May 2011*
Department of Computer Engineering, Koc University, Istanbul, Turkey
 - “Reverse engineering of gene regulatory networks via parallel programming”, *May 2011*
Department of Electrical and Electronics Engineering, Sehir University, Istanbul, Turkey
 - “Reverse engineering of gene regulatory networks via parallel programming”, *May 2011*
Genetic Engineering and Biotechnology Institute, TUBITAK Marmara Research Center, Gebze, Turkey
 - “Reverse engineering of gene regulatory networks via parallel programming”, *May 2011*
Department of Biological Sciences and Bioengineering, Sabanci University, Istanbul, Turkey

- “Reverse engineering of gene regulatory networks via parallel programming”, Department of Molecular Biology and Genetics, Bosphorus University, Istanbul, Turkey May 2011
- “Gene expression data analysis”, 9th National Medical Genetics Congress, Istanbul, Turkey. Dec 2010
- “Reverse engineering of gene regulatory networks via parallel programming”, 9th National Medical Genetics Congress, Istanbul, Turkey. Dec 2010
- “Discovery of glioma-subtype specific regulatory networks in glioblastoma”, Memorial Sloan-Kettering Cancer Center, New York, NY March 2009
- “Combinatorial approaches to the physical mapping problem”, Center for Plant Cell Biology (CEPCEB) Seminar Series, University of California, Riverside. June 2008
- “Combinatorial approaches to the physical mapping problem”, Departments of Internal Medicine and Biomedical Engineering, University of Iowa, Iowa City, IA. May 2008
- “Combinatorial approaches to the physical mapping problem”, Department of Computer Science and Engineering, University of Minnesota, Minneapolis, MN. May 2008
- “Combinatorial approaches to the physical mapping problem”, Genome Center, University of California, Davis, CA, USA. April 2008
- “Combinatorial approaches to the physical mapping problem”, Agricultural Research Service, United States Department of Agriculture (USDA), Beltsville, MD. April 2008
- “Combinatorial approaches to the physical mapping problem”, NIDDK, NIH, Bethesda, MD. April 2008
- “Combinatorial approaches to the physical mapping problem”, Department of Plant Pathology, Kansas State University, Manhattan, KS. April 2008
- “Assembly of physical maps from fingerprinted clones”, Department of Computer Engineering, Marmara University, Istanbul, Turkey. March 2006

AWARDS & HONORS

- **Certificate**, Scientists Teaching Science (9-week course), National Institutes of Health, Bethesda, MD. 2011
- **Visiting Fellowship**, National Institutes of Health, Bethesda, MD. Oct 2008 - Present
- **Graduate Student Association Mini Grant**, University of California, Riverside. 2007
- **Outstanding Teaching Assistant Award**, University of California, Riverside. 2004
- **Dean’s Fellowship**, Department of Computer Science and Engineering, University of California, Riverside. Sep 2003 – June 2005
- **Graduate Research Scholarship**, Türkipetrol Foundation, Istanbul, Turkey. 2003
- **Undergraduate Education Fellowship**, Finance Bank Foundation, Istanbul, Turkey. Sep 1998 – June 2002

UNIVERSITY SERVICE

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- **Chair**, Algorithms and Computational Lab Journal Club, University of California, Riverside. *Jan 2006 – April 2007*

COMMUNITY SERVICE

- **Founder and vice president** of Turkish Student Association (TSA) Student Club, University of California, Riverside. *Jan 2006 – Aug 2008*

PROFESSIONAL SERVICE

- **Member**, Reviewer Editorial Board of Frontiers in Bioinformatics and Computational Biology.
- **Reviewer**, Bioinformatics, Cell, Nature, Nucleic Acids Research (NAR).
- **Reviewer**, 4th Annual Chesapeake Science and Engineering Fair, Dec 2008.
- **Reviewer**, ICDM'08: IEEE International Conference on Data Mining, Pisa, Italy.
- **Reviewer**, WABI'08: Workshop on Algorithms in Bioinformatics, Universität Karlsruhe, Germany.
- **Reviewer**, CSB'08: Computational Systems Bioinformatics Conference, Stanford, CA.
- **Reviewer**, SDM'08: SIAM Conference on Data Mining, Atlanta, GA.
- **Reviewer**, WABI'07: Workshop on Algorithms in Bioinformatics, Philadelphia, PA.
- **Reviewer**, SMD'07: SIAM Conference on Data Mining, Minneapolis, MN.
- **Reviewer**, SMD'06: SIAM Conference on Data Mining, Bethesda, MD.
- **Reviewer**, ICTAI'05: IEEE International Conference on Tools with Artificial Intelligence, Hong Kong.

REFERENCES

Available upon request