

Chengpeng Bi

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| EDUCATION | Postdoctoral, The University of California , Davis, California USA August 2003 Ph.D., The Pennsylvania State University , University Park, Pennsylvania USA May 2002 Ph.D. minor in Operations Res., The Pennsylvania State University , USA May 2002 M.Eng. in Computer Science, The Pennsylvania State University , USA December 2000 M.S. in Entomology, China (formerly Beijing) Agri. University , Beijing CHINA July 1989 B.A. in Plant Protection, Huazhong Agri. University , Wuhan CHINA July 1986 |
| RESEARCH AND SERVICES | Algorithm design for problems in bioinformatics and computational genomics using statistical modeling, machine learning and intelligent computing approaches. Reviewer for various bioinformatics-related journals, PC member and session chair of numerous international conferences. |
| ACADEMIC EXPERIENCE | Children's Mercy Hospitals and Clinics , Kansas City, Missouri USA Director of Bioinformatics & Intelligent Computing July 2007 – present Research Scientist in Bioinformatics August 2003 – June 2007 University of Missouri - Kansas City , Kansas City, Missouri USA Assistant Professor, UMKC School of Medicine July 2007 – present Adjunct Assistant Professor, School of Computing & Engineering July 2004 – present The University of California , Davis, California USA Postdoctoral Researcher, UC Davis Genome Center June 2002 – August 2003 The Pennsylvania State University , University Park, Pennsylvania USA Research Associate, Department of Anthropology January 2002 – June 2002 Research/Teaching Assistant, Department of Entomology August 1997 – December 2001 Huazhong (Central China) Agri. University , Wuhan, Hubei CHINA Lecturer, Department of Plant Protection August 1995 – July 1997 Assistant Lecturer, Department of Plant Protection May 1990 – July 1995 Research Assistant, Department of Plant Protection October 1989 – April 1990 |
| SELECTED PUBLICATIONS | C. Bi (2010) Deterministic local alignment methods improved by a simple genetic algorithm. <i>Neurocomputing</i> (Accepted) C. Bi (2010) Comparison of optimization techniques for sequence pattern discovery by maximum-likelihood. <i>Pattern Recognition Letters</i> (In Press) C. Bi , C.A. Vyhldal and J.S. Leeder (2010) Supervised machine learning of maternal cigarette-smoking signatures from placental gene expression data: A case study. In: <i>Proceedings of 2010 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology</i> , pp. 1-6. Montreal Canada. IEEE Press, Piscataway, NJ. C.J. Saunders, M. Friez, M. Patterson, M. Nasbi, W. Zhao and C. Bi (2010) Allele dropout in the MECP2 gene due to G-quadruplex and i-motif sequences when using PCR-based diagnosis for Rett syndrome. <i>Genetic Testing and Molecular Biomarkers</i> , 14 (2), 241-247. C. Bi (2009) A Monte Carlo EM algorithm for motif discovery in biomolecular sequences. <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 6, 370-386. C. Bi (2009) DNA motif alignment by evolving a population of Markov chains. <i>BMC Bioinformatics</i> , 10, S13 J. Meng, C. Bi , C.G. McKnight, S.W. Handoyo and L.J. Rosenwasser (2009) Genome-wide screening |

SNPs with arginine vs tryptophan change associated with allergy. *Journal of Allergy and Clinical Immunology*, 123, S167.

C. Bi (2008) Data augmentation algorithms for detecting conserved domains in protein sequences. *Journal of Proteome Research*, 7, 192-201.

C. Bi, C.A. Vyhldal and J.S. Leeder (2008) A comparative study on structured motif detection: algorithms and applications. *Molecular Pharmaceutics*, 5, 3-16.

C. Bi (2008) Evolutionary Metropolis sampling in sequence alignment space. In: *Proceedings of 2008 IEEE Congress on Evolutionary Computation*, pp. 189-194. Hong Kong CHINA. IEEE Press, Piscataway, NJ.

C. Bi, M.C. Saunders and B.A. McPheron (2008) Neuro-Fuzzy classification of the *Rhagoletis pomonella* species group using digitized wing structure. In: *Proceedings of 2008 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology*, pp. 159-165. Idaho USA. IEEE Press, Piscataway, NJ.

C. Bi (2007) Multiple sequence local alignment using Monte Carlo EM algorithm. In: I. Mandouli and A. Zelikovsky (Eds.): *ISBRA07, Lecture Notes in Bioinformatics*, vol. 4463, pp. 465-476. Springer-Verlag Berlin Heidelberg.

C. Bi (2007) SEAM: A stochastic EM-type algorithm for motif-finding in biopolymer sequences. *Journal of Bioinformatics and Computational Biology*, 5, 47-77.

C. Bi (2007) A genetic-based EM motif-finding algorithm for biological sequence analysis. In: *Proceedings of 2007 IEEE Symposium on Computational Intelligence in Bioinformatics and Computational Biology*, pp. 275-282. Hawaii USA. IEEE Press, Piscataway, NJ.

C. Bi, M.C. Saunders and B.A. McPheron (2007) Wing pattern-based classification of the *Rhagoletis pomonella* species complex using genetic neural networks. *Intl J. Computer Sci. & Appl.*, 4, 1-14.

C. Bi and P.K. Rogan (2006) BIPAD: A web server for modeling bipartite sequence elements. *BMC Bioinformatics*, 7, 76

J. Bode, S. Winkelman, S. Gotze, S. Spiker, K. Tsutui, **C. Bi**, P. AK and Craig Benham (2006) Correlation between scaffold/matrix attachment region (S/MAR) binding activity and DNA duplex Destabilization energy. *Journal of Molecular Biology*, 358, 597-613.

C.J. Benham and **C. Bi** (2004) The analysis of stress-induced duplex destabilization in long genomic DNA sequences. *Journal of Computational Biology*, 11, 519-543.

C. Bi and C.J. Benham (2004) WebSIDD: server for prediction of the stress-induced duplex destabilized (SIDD) sites in superhelical DNA. *Bioinformatics*, 20, 1477-1479.

C. Bi and P.K. Rogan (2004) Bipartite pattern discovery by entropy minimization-based multiple local alignment. *Nucleic Acids Research*, 32, 4979-4991.

C. Bi and C.J. Benham (2003) The approximate algorithm for analysis of the strand separation transition in superhelical DNA using nearest neighbor energetics. In: *Proceedings of IEEE Computer Society for Bioinformatics*, pp. 460-461. Stanford USA. IEEE Press, Piscataway, NJ.