

# Timothy Alcon

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## Education

M.S. in Bioinformatics, Dec. 2009  
Iowa State University, Ames IA

M.S. in Computer Science, June 1998  
Western Washington University, Bellingham WA

B.A. in Communications, minor in History, June 1992  
Western Washington University, Bellingham WA

## Computer Skills

Experience using:

- Java, R, Perl, C/C++, ML, Smalltalk, Pascal, Modula-2, Fortran, COBOL and BASIC
- Windows, Unix, Microsoft Office, EndNote, LaTeX and HTML
- many different bioinformatics data repositories and tools, including: Entrez, Ensembl, MGI, UCSC Genome Browser, Galaxy, DIP, BIND, HPRD, MINT, BioGRID, Gene Ontology, Cytoscape, BLAST, WebGestalt, Amadeus/Allegro, FIRE, TELiS, Weeder, TOUCAN and Banjo

## Language Skills

- Intermediate knowledge of Spanish
- Beginning knowledge of Mandarin

## Professional Experience

**Assistant Professor of Computer Science**  
Pacific Union College, Angwin, CA

July 1999 – July 2004

- Helped reorganize CS curriculum along ACM guidelines.
- Designed and taught the following courses:
  - *Introduction to Computers*
  - *Introduction to Programming*
  - *Computer Science I & II*
  - *Data Structures and Algorithms*
  - *Object-oriented Design*
  - *Computer Languages*
  - *Communications and Networking*
  - *Software Engineering*
  - *Computer Graphics*
  - *Theory of Computing.*
- Served on the student parking committee.

Career-related  
Experience

**BCB Lab Administrator** Aug. 2009 – present  
Iowa State University, Ames, IA

- Coordinated a student-run lab (BCB Lab) whose members assist researchers with bioinformatics-related projects.

**Research Assistant** Aug. 2006 – Aug. 2009  
Iowa State University, Ames, IA

- Investigated methods for augmenting a literature-based model of rod photoreceptor differentiation
  - Integrated time-series gene expression data from multiple platforms (Affymetrix microarrays, cDNA microarrays and SAGE)
  - Inferred transcription factor binding sites for genes present in the gene expression datasets
  - Extracted annotation data from the Gene Ontology for genes present in the gene expression datasets
- Investigated methods for aligning biological networks.

**Teaching Assistant** Aug. 1998 – May 1999  
Washington State University, Pullman, WA

- Held weekly help sessions for Data Structures and Algorithms
- Graded homework for Software Engineering and Data Structures and Algorithms

**Teaching Assistant** Sept. 1997 – June 1998  
Western Washington University, Bellingham, WA

- Managed the lab for Introduction to Computers.

International  
Experience

NSF EAPSI (East Asian and Pacific Summer Institutes) Fellow at the Institute of Genetics and Developmental Biology, part of the Chinese Academy of Sciences  
Beijing, China June – August 2009

- Established contact with lab of interest
- Designed and wrote a research proposal
- Computed pairwise semantic distance between genes, based on the Gene Ontology, for tens of thousands of genes
- Gave presentation of ongoing research
- Edited English for lab members

Attended the 14<sup>th</sup> Annual International Conference on Intelligent Systems for Molecular Biology (ISMB)  
Fortaleza, Brazil August 2006

- Applied for grant to cover membership and travel
- Presented research poster

## Publications

Jing-Dong J. Han, Yi Liu, Huiling Xue, Kai Xia, Hong Yu, Shanshan Zhu, Zhang Chen, Wei Zhang, Chunyu Jin, Bo Xian, Jing Li, Lei Hou, Yixing Han, Chaoqun Niu and **Timothy C. Alcon**. Developmental systems biology flourishing on new technologies. *Journal of Genetics and Genomics*, September 2008, 35:577-584.

Laura A. Hecker, **Timothy C. Alcon (co-first author)**, Vasant G. Honavar and M. Heather West Greenlee. Using a seed-network to query multiple large-scale gene expression datasets from the developing retina in order to identify and prioritize experimental targets. *Bioinformatics and Biology Insights*, February 2008, 2:91-102.

## Posters

**Timothy C. Alcon**, M. Heather West Greenlee and Vasant G. Honavar. Mining the genome for targets of retinal transcription factors. Presented at the Pacific Symposium on Biocomputing (PSB), 2008.

**Timothy C. Alcon**, M. Heather West Greenlee and Vasant G. Honavar. Cross-platform comparison of gene expression in murine retina. Presented at the 14<sup>th</sup> Annual International Conference on Intelligent Systems for Molecular Biology (ISMB), 2006.

## Interests

Running, weight training, ultimate frisbee, Irish tin whistle, guitar, juggling, reading cultural/historical memoirs, international travel.