Curriculum Vitae

Bob Zimmermann

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Interests

Regulatory non-coding RNA; SELEX; Computational Biology

Education

2007– PhD, Biochemistry
University of Vienna
Specialization: Regulatory non-coding RNAs
Thesis Topic: Integrating computational and biochemical approaches to gain insight into Genomic SELEX aptamers
Chair: Reneée Schroeder, Biochemistry, University of Vienna
Committee: Ivo Hofacker, Theoretical Biochemistry, University of Vienna
Eric Westhof, Molecular and Cell Biology, CNRS, Strasbourg

2004–2006 Master of Science, Computer Science
Washington University in St. Louis
Specialization: Computational Biology, Gene Structure Prediction
Thesis Topic: Prediction of Alternative Splicing through Direct Modeling in an HMM
Chair: Michael R. Brent, Computer Science
Committee: Jeremy D. Buhler, Computer Science
Sean R. Eddy, Genetics

1999–2003 Bachelor of Science, Computer Science
University of Michigan in Ann Arbor
Specialization: Software Development, Educational Software
Elected to Phi Beta Kappa

Research

2004–2007 **RNA Biology Laboratory**
Renée Schroeder, Department of Biochemistry
University of Vienna
Investigation of SELEX artifacts and benefits in an in-depth quantitative study; development of database framework for access to high-throughput sequencing data enabling unlimited extensibility using anonymous foreign key relationships; genomic analysis of binding targets of *E. coli* global regulator Hfq including positional fold enrichment surrounding translational start and stop signals; processing of high-throughput sequencing data from several SELEX experiments.

2004–2007 **Laboratory for Computational Genomics**
Michael R. Brent, Department of Computer Science and Genetics
Washington University in St. Louis
Development of new parameterization of the Twinscan model for prediction of skipped exon events. Involvement in several projects, including revising the N-Scan model, and adopting new conservation alphabets for Twinscan.

2002–2004 **Center for Highly Interactive Computing in Education**
Elliot Soloway, Department of Computer Science and Education
University of Michigan, Ann Arbor
Research in new user interfaces for the PalmOS for use in the classroom. Authored an organizer, a chemistry modeling/animation tool, and a participatory simulations backend, and maintained over seven other packages.

Teaching

2004,2005 **Algorithms for Computational Biology**
Washington University in St. Louis
Teaching Assistant
Responsible for design and implementation of all lab and homework assignments. Lead several help sessions and assisted students with office hours. Received excellent reviews.

Work Experience

2003–2004 **GoKnow, Inc.**
Software Engineer/Tester
Responsible for versioning, testing, and maintaining code bases for several software packages for release.

2004 **University of Michigan Transportation**
Web Designer/Programmer
Designed and implemented RosterManager, a PHP/MySQL package which maintained a roster system for the student drivers. Included authentication, profile information, and the capability for supervisors to view and upload rosters, and students to view and sign off for their shifts.

2002–2003 **University of Michigan Department of Mechanical Engineering**
Software Engineer/Programmer
Finalized a large suite of programs to evaluate, chart, and otherwise visualize a number of statics and dynamics equations for students.

Publications

Bob Zimmermann*, Tanja Gesell*, Christina Lorenz, Doris Chen and Renée Schroeder. Monitoring Genomic Sequences during SELEX Using High-Througput Sequencing: Neutral SELEX. *PLoS ONE* 5(2): e9169. (*equal contribution)

Christina Lorenz, Tanja Gesell, Bob Zimmermann, Ursula Schoeberl, Ivana Bilusic, Christina Waldsich Arndt van Haessler and Renée Schroeder. Genomic SELEX for Hfq-binding RNAs identifies genomic aptamers predominantly in antisense transcripts. *Nucleic Acids Research* Advanced Access published March 25, 2010.

Bob Zimmermann (2006, December). Leveraging EST Evidence to Automatically Predict Alternatively Spliced Genes. Master's thesis.

Lisa Ann Scott, Robert Zimmermann, Hsin-Yi Chang, Mary Heitzman, Joseph Krajcik, Kate Lynch McNeill, Christ Quintana, Elliot Soloway. *Chemation: a handheld chemistry modeling and animation tool.* Proceeding of the 2004 conference on interaction design and children: building a community. 145–146.

References

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