

# CURRICULUM VITAE

TRAVIS J WHEELER

HHMI Janelia Farm Research Campus  
19700 Helix Drive  
Ashburn VA 20147

E-mail: [travis\\_xx @ xx traviswheeler.com](mailto:travis_xx@xx.traviswheeler.com) (ignore x's)

Phone: (571) 449-6401

Web page: <http://ww.nimbletwist.com>

## RESEARCH INTERESTS

Design, implementation and analysis of algorithms for computational molecular biology. Specific interest in matters related to molecular sequences, e.g. sequence alignment, homology search, and phylogeny inference.

## EDUCATION

**Postdoctoral Associate, HHMI Janelia Farm Research Campus, ongoing**

Sean Eddy

**Ph.D. Computer Science, The University of Arizona, 2009**

Advisors: John Kececioglu

Mike Sanderson

**Minor in Evolutionary Biology**

Minor Advisor: David Maddison

**M. S. Computer Science, The University of Arizona, 2006**

**B. A. Ecology and Evolutionary Biology, The University of Arizona, 1995**

Cum Laude

## PROFESSIONAL EXPERIENCE

**Tree of Life Web Project (tolweb.org)**

Oct 2000- Dec 2003

- Lead Architect and Developer on projects to convert ToL content to a database driven architecture, improve flexibility and accessibility of web interface, and develop tools to enable and encourage content contribution by biologists world-wide.
- Managed 1 full time developer and 5 graduate research assistants.

**Intuit, Inc.**

July 95 - Oct 2000

- Designed and developed Telephony, Customer-Relationship-Management, Database Management and Automation applications for a 2500 person call center. Environment included Visual Basic, Perl, Oracle, Genesys, Lucent and Siebel.
- Hired >100 positions, managed and mentored rotating team of ~15.

## PUBLICATIONS

Wheeler, T.J. 2009. Large-scale neighbor-joining with NINJA. Proceedings of the 9th Workshop on Algorithms in Bioinformatics.

Kim, E., Wheeler, T.J., and Kececioglu, J.D. 2009. Learning models for aligning protein sequence with predicted secondary structure. Proceedings of the 13th Conference on Research in Computational Molecular Biology (RECOMB), Springer-Verlag Lecture Notes in Bioinformatics **5541**: 586-605

Wheeler, T.J. and Kececioglu, J.D. 2007. Multiple alignment by aligning alignments. Proceedings of the 15th ISCB Conference on Intelligent Systems for Molecular Biology, Bioinformatics, **23**: i559-i568.

Good, J.M., Hayden, C.A., and Wheeler T.J. 2006. Adaptive protein evolution and regulatory divergence in *Drosophila*. Molecular Biology and Evolution, **23**(6): 1101-1103.

Hayden, C.A., Wheeler, T.J., and Jorgensen R.A. 2005. Evaluating and improving cDNA sequence quality with cQC. Bioinformatics, **21**(24): 4414-4415.

Cutter, A.D, Good, J.M., Pappas, C.T., Saunders, M.A., Starrett, D.M., Wheeler T.J. 2005. Transposable element orientation bias in the *Drosophila melanogaster* genome. Journal of Molecular Evolution, **61**(6): 733-741.

## SOFTWARE

Wheeler, T.J. 2009. NINJA: software for large-scale neighbor-joining phylogeny inference.

<http://nimbletwist.com/software/ninja>

Wheeler, T.J. and Maddison, D.R. 2009. Opalescent: a Mesquite package for multiple sequence alignment.

<http://mesquiteproject.org>

Wheeler, T.J. and Kececioglu, J.D. 2006. Opal: software for multiple sequence alignment by optimally aligning alignments. <http://opal.cs.arizona.edu>

Maddison, D.R., Wheeler, T.J., and Maddison, W.P. 2006. Align: a Mesquite package for aligning sequence data.

<http://mesquiteproject.org>

Starrett, D.M., Wheeler, T.J., and Kececioglu, J.D. 2005. AlignAlign: software for optimally aligning alignments.

<http://alignalign.cs.arizona.edu>

Hayden, C.A. and Wheeler, T.J. 2005. cQC - cDNA Quality Control: A tool for resolving putative sequencing errors in single-pass cDNA, based on genomic sequence. Version 1.0. <http://genomics.arizona.edu/software/cQC/>

## PRESENTATIONS

Large-Scale Neighbor-Joining with NINJA. 9<sup>th</sup> WABI in Philadelphia, Pennsylvania. Sept 12, 2009 (Oral presentation).

Opal: Multiple alignment by aligning alignments. 15<sup>th</sup> ISMB in Vienna, Austria. July 23, 2007 (Oral presentation).

Opal: Forming and Polishing Multiple Alignments by Optimally Aligning Subalignments. NSF-IGERT Program in Genomics Fall Symposium, Tucson, AZ, Dec. 6, 2006 (Oral presentation).

Wheeler, T.J., Kececioglu, J.D. 2006. OPAL: Forming and Polishing Multiple Alignments by Optimally Aligning Subalignments. Genomics of Closely Related Organisms, Tucson, AZ, Jan 12-14, 2006 (Poster presentation).

Whirlwind Introduction to Machine Learning for biologists, U of Arizona IGERT Program in Genomics, Mar 2, 2005, (Oral presentation).

Whirlwind Introduction to Algorithms for biologists, U of Arizona IGERT Program in Genomics, Feb 16, 2005, (Oral presentation).

Hayden, C.A., Wheeler, T.J., Jorgensen, R.A. 2004. Conservation of Upstream Open Reading Frames Between Rice and Arabidopsis: Putative Mediators of Gene Regulation in the 5' UTR. Plant Genomes: From Sequence to Phenome, Cold Spring Harbor, NY, Dec. 9-12, (Poster presentation).

Introduction to databases with MySQL, U of Arizona IGERT Program in Genomics, Apr 7, 2004, (Oral presentation).

Introduction to programming with Perl for biologists, U of Arizona IGERT Program in Genomics, Mar 24, 2004, (Oral presentation).

Wheeler, T.J., Maddison, D.R., and Schultz, K.-S. 2002. Tree of Life Web Project: Implementing an Open-source Database and Toolset for Sharing Phylogenetic and Other Biological Information via the Web. O'Reilly Bioinformatics Technology Conference, January 29, 2002, (Oral presentation).

## TEACHING EXPERIENCE

Instructor, Computational lab of Foundations in Genomics, University of Arizona. 2006, 2009.

## SERVICE

Board member, Phi Beta Kappa Association of Greater Tucson	2006 - 2009
Board member, Oracle Foothills Neighborhood Association	2006 - 2008
Student Representative to Computer Science Faculty Recruitment Committee	2004 - 2005

## HONORS AND AWARDS

NSF IGERT Comparative Genomics Fellowship, University of Arizona, July 2008 - June 2009 (1 year award, competitive)

NSF IGERT Genomics Fellowship, University of Arizona, July 2006 - June 2007 (1 year award, competitive)

NSF IGERT Genomics Fellowship, University of Arizona, Jan 2006 - June 2006 (6 month award, competitive)

NSF IGERT Genomics Fellowship, University of Arizona, Jan 2004 - Dec 2005 (2 year award, competitive)

**AFFILIATIONS**

Phi Beta Kappa Honors Society  
Association for Computing Machinery  
International Society for Computational Biology

**OTHER INTERESTS**

Running, cycling, wrasslin' with dogs, and making silly noises with my kids.