

Biographical Sketch: Thomas Jefferson Sharpton

Education:

University of California, Berkeley

Ph.D. Microbiology with Designated Emphasis in Computational Biology (2003-2009)

Oregon State University

B.S. Biochemistry and Biophysics [cum laude] (1999-2003)

Scientific Research Experience:

J. David Gladstone Institutes, UCSF, San Francisco, CA Laboratory of Dr. Katherine S. Pollard

Postdoctoral Fellow (06/2009 –) *tenure ends 08/2010*

Project: Identifying Operational Taxon Units from metagenomic data using probabilistic sequence models

University of California, Berkeley, Berkeley, CA Laboratory of Dr. John W. Taylor

PhD Student (10/2003 – 05/2009)

Dissertation: Investigations of Natural Genomic Variation in the Fungi

Committee: Dr. John W. Taylor

Dr. Sandrine Dudoit

Dr. N. Louise Glass

Dr. Kimmen Sjolander

The Broad Institute of MIT and Harvard University, Boston, MA Microbial Sequencing Center

Research Assistant (1/2005 - 5/2005)

Primary Advisor: Dr. James E. Galagan

Project: Comparative genomic analysis of spliceosomal intron evolution in *Cryptococcus*

Oregon State University, Corvallis, OR Laboratory of Dr. Virginia Weis

Undergraduate Research Assistant (3/2002-6/2003)

Project: Determining the effect of sunlight intensity on protein expression in the sea anemone

Anthopleura elegantissima

University of Alaska Fairbanks, Fairbanks, AK Laboratory Dr. Kyung-Hoon Shin

Undergraduate Research Assistant (6/2001-9/2001)

Project: Evaluating carbon nutrient cycling in the Arctic Ocean.

Frontier Research, Fairbanks, AK

Undergraduate Data Analyst (6/2000-9/2000)

Project: Modeling historical polar ice edge migration

Publications:

Sharpton TJ, Stajich JE, Taylor JW. (In preparation) "Patterns and rates of simple sequence repeat variation in the Fungi."

Neafsey, DE, Barker, BM, Sharpton TJ, Stajich, JE, Park, D, *et. al.* (In preparation) "Population genomic sequencing of *Coccidioides* fungi reveals recent hybridation and signals of immune-mediated natural selection."

Sharpton, TJ, Stajich, JE, Rounsley, Gardner MJ, Wortman, JR, *et. al.* (2009) "Comparative genomic analyses of the human fungal pathogens *Coccidioides* and their relatives." *Genome Research* 19.

Sharpton, TJ, Neafsey, DE, Galagan, JE, and Taylor, JW. (2008) Mechanisms of Intron Gain and Loss in *Cryptococcus*." *Genome Biology* 9 (1).

Sharpton, TJ and Jhaveri AJ. (2006) "Leveraging the Knowledge of our Peers: Online communities hold the promise to enhance scientific research." *PLOS Biology* 4(6).

Invited Talks:

Evolutionary genomics identifies proteins important to the interaction between *Coccidioides* and its host
Fungal Genetics Conference. Asilomar, CA. March 2009.

The Comparative Genomics of *Coccidioides* and the rise of Virulence

American Society for Microbiology. Boston MA. June 2008.
The Comparative Genomics of *Coccidioides*
Dean's Advisory Meeting. University of California, Berkeley, Berkeley, CA. November 2007.
What makes a pathogenic fungus? A comparative genomics investigation of *Coccidioides* evolution
UC Berkeley Microbiology Student Symposium, Berkeley, CA. April 2007.
The Effect of Light Intensity on *Sym 32* Expression in *Anthopleura elegantissima*
HHMI Student Symposium Corvallis, OR. 2002.

Presentations:

Comparative evolutionary genomics of the pathogenic fungus *Coccidioides*.
DE Computational and Genomic Biology Retreat. Lawrence Livermore National Laboratories.
Berkeley, CA. November 2008.
The Comparative Genomics of *Neurospora* Neurospora. Asilomar, CA. March 2008.
What makes a pathogenic fungus?
Bay Area Meeting on Pathogenesis. University of California, San Francisco, San Francisco, CA.
March 2007.
Signatures of natural selection in a pathogenic fungus.
Microbiology Student Symposium. UC Berkeley. April 2007.
What makes a pathogenic fungus? Fungal Genetics Meeting. Asilomar, CA. 2007.
The evolution of spliceosomal introns in *Cryptococcus neoformans*.
Bay Area Meeting on Pathogenesis. University of California, San Francisco, San Francisco, CA.
2006.

Awards and Honors:

Department's Student Research Representative at the Dean's Council Meeting 2007
UC Berkeley Effectiveness in teaching award 2007
Chang-Lin Tien Graduate Research Fellowship 2006
Oregon State University Leadership Fellowship 2002
Howard Hughes Medical Institute Undergraduate Research Fellowship 2002
Dr. Donald MacDonald Excellence in Science scholarship 2002
OSU College of Science Excellence in Science scholarship 2002
OSU Provost Scholarship 1999
American Legion Student Ethics Award 1999

Service:

Webmaster for the Microbiology Student Group 2006-2008
President of the Plant and Microbial Graduate Student Group 2007
President of the Microbiology Student Group 2007
UC Berkeley Microbiology Student Symposium Chair 2006
Joint Genome Institute's IUMS comparative genome browser advisory board member 2005

Teaching Experience:

Seminar Organizer, Comparative Genomics Seminar, UC Berkeley, Spring 2007
Graduate Student Instructor, The Diversity of Fungi, UC Berkeley, Fall 2006
Graduate Student Instructor, Introduction to Biology, UC Berkeley, Fall 2004
Undergraduate Student Instructor, Cell and Molecular Biology, Oregon State University, Spring 2003

Other Experience:

Siphs.com, an online knowledge distribution service provider
Founder, Core Programmer and Web Developer (5/2005 – 12/2008)
Languages utilized: Java/JSP, PERL/PHP, MySQL, HTML/Javascript/AJAX, XML
Fungalgenomes.org, a current events blog of mycological news
Contributing Author (7/2006 – 05/2009)