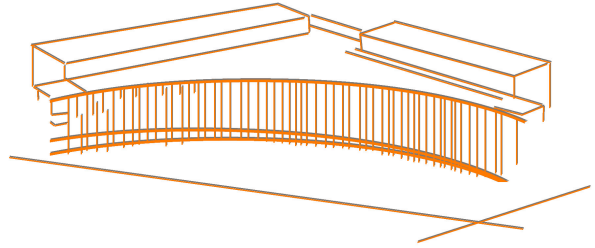


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Research Interests:

I am currently a postdoctoral fellow working with David Botstein and studying the molecular basis of evolution. The yeast *Saccharomyces cerevisiae* and related *sensu stricto* species are ideal candidates for exploring the mechanisms underlying this process. By combining long-term evolution experiments with comparative genomics of extant yeast species, I aim to address fundamental questions in evolutionary genomics.

Education:

Harvard University, Cambridge, MA (2002 – 2007)
Ph.D. Molecular Biology
Thesis: Mutation rate variation in the yeast, *Saccharomyces cerevisiae*
Advisor: Andrew Murray
Thesis Committee: Erin O'Shea (chair), Dan Hartl, Roy Kishony, Matt Michael

Millersville University of Pennsylvania, Millersville, PA (1997 – 2001)
B.S. Molecular Biology
Minors: Physics, Biochemistry
GPA: 3.90, Magna cum laude

Publications:

Lang GI, and Botstein D. 2011. A test of the coordinated expression hypothesis for the origin and maintenance of the *GAL* cluster in yeast. *PLoS ONE*. Sep 22; 10.1371/journal.pone.0025290.

Lang GI, Murray AW. 2011. Mutation rates across budding yeast Chromosome VI are correlated with replication timing. *Genome Biology and Evolution*. 3:799-811.

Lang GI, Botstein D, and Desai MM. 2011. Genetic variation and the fate of beneficial mutations in asexual populations. *Genetics*. Jul;188(3):647-61.

Lang GI, Murray AW, and Botstein D. 2009. The cost of gene expression underlies a fitness trade-off in yeast. *PNAS*. Apr 7;106(14):5755-60.

Lang GI, Murray AW. 2008. Estimating the per-base-pair mutation rate in the yeast *Saccharomyces cerevisiae*. *Genetics*. Jan;178(1):67-82.

Hepfer CE, Arnold-Croop S, Fogell H, Steudel KG, Moon M, Roff A, Zaikoski S, Rickman A, Komsisky K, Harbaugh DL, Lang GI, Keil RL. 2005. *DEG1*, encoding the tRNA:pseudouridine synthase Pus3p, impacts *HOT1*-stimulated recombination in *Saccharomyces cerevisiae*. *Mol Genet Genomics*. Dec;274(5):528-38.

Teaching experience:

Lecturer, Project Lab in Molecular Biology. (Princeton, August 2011).
Lecturer: Alison Gammie

Teaching Fellow, A Systems Approach to Biology. (Harvard, Spring 2005).
Lecturers: Marc Kirschner, Lewis Cantley, Walter Fontana, and Jeremy Gunawardena

Curriculum-Development Committee, A Systems Approach to Biology. (Harvard, Fall 2004 – Spring 2005)

Teaching Fellow. MCB/HHMI Outreach, Fly learning and memory (Harvard, March 2004)

Teaching Fellow. Introduction to Genetics and Genomics. (Harvard, Fall 2003).
Lecturer: William Gelbart

Professional conferences:

Gordon Research Conference on Ecological and Evolutionary Genomics. (10 – 15 July, 2011)

University of New England, Biddeford, ME

Talk: [Lang GI](#), Desai MM, Botstein D. Genetic variation and the fate of beneficial mutations in asexual populations.

The Biology of Genomes. (10 – 14 May, 2011)

Cold Spring Harbor Laboratory, NY

Talk: [Lang GI](#), Desai MM, Botstein D. Genetic variation and the fate of beneficial mutations in asexual populations.

Yeast Meeting. (27 July – 2 August, 2010)

University of British Columbia, Vancouver, B.C.

Talk: [Lang GI](#), Botstein D, Desai MM. Observing the dynamics of adaptation: Emergence and fate of beneficial mutations.

Gordon Research Conference on Microbial Population Biology. (19 – 24 July, 2009)

Proctor Academy, Andover, NH

Poster: [Lang GI](#), Murray AW, Botstein D. The cost of gene expression underlies a fitness trade-off in yeast.

74th Symposium: Evolution - The Molecular Landscape. (27 May – 1 June, 2009)

Cold Spring Harbor Laboratory, NY

Poster: [Lang GI](#), Murray AW, Botstein D. The cost of gene expression underlies a fitness trade-off in yeast.

EMBO Workshop on Evolutionary and Environmental Genomics of Yeasts. (1 – 5 October, 2008)

EMBL Heidelberg, Germany

Talk: [Lang GI](#), Murray AW, Botstein D. An evolutionary trade-off between growth rate and mating efficiency in yeast.

Gordon Research Conference on Mutagenesis. (6 – 11 August, 2006)

Salve Regina University, Newport, RI

Poster: [Lang GI](#), Murray AW. Mutation rate across *Saccharomyces cerevisiae* Chromosome VI is correlated with replication timing.

6th International Conference on Systems Biology. (19 – 24 October, 2005)

Harvard Medical School, Boston, MA

Poster: [Lang GI](#), Murray AW. Variation in mutation rate along yeast Chromosome VI.

33rd Meeting of the Commonwealth of Pennsylvania University Biologists. (19 - 21 April, 2002)

Lock Haven University of Pennsylvania, Lock Haven, PA

Poster: [Lang GI](#) and Hepfer C. A second function of pseudouridine synthase, Pus3p, independent of pseudouridine formation, impacts *HOT1*-associated recombination, growth rate, and temperature tolerance in *Saccharomyces cerevisiae*.