

Stanford



Barbara L Dunn

Senior Biocuration Scientist, Genetics

Bio

BIO

I'm a Senior Biocuration Scientist in the Department of Genetics at Stanford University, currently working with the *Saccharomyces* Genome Database in the laboratory of Dr. J. Michael Cherry. I received my A.B. in Botany at UC Berkeley, and my Ph.D. in Biological Chemistry at Harvard University, where I studied yeast telomeres in the laboratory of Dr. Jack Szostak. My recent bench research has focused on using whole-genome DNA and RNA sequencing, ChIP-Seq, array-CGH, and other “omics” methods to broadly explore evolution in yeast, and particularly the genome structures and genome evolution of industrial yeasts (lager, ale, wine, ethanol, bread).

HONORS AND AWARDS

- Graduate research fellowship, NSF
- Senior postdoctoral fellowship, American Cancer Society (1991-1993)
- ADVANCE fellow award, NSF (2004-2007)

EDUCATION AND CERTIFICATIONS

- A.B., University of California, Berkeley , Botany (1978)
- Ph.D., Harvard University , Biological Chemistry; Yeast telomeres (1988)

Publications

PUBLICATIONS

- **Genetic Manipulation of Brewing Yeasts: Challenges and Opportunities** *Brewing Microbiology: Current Research, Omics and Microbial Ecology*
Dunn, B., Kvitek, D. J., Sherlock, G.
Caister Academic Press.2017: 119–144
- **Development of a Comprehensive Genotype-to-Fitness Map of Adaptation-Driving Mutations in Yeast.** *Cell*
Venkataram, S., Dunn, B., Li, Y., Agarwala, A., Chang, J., Ebel, E. R., Geiler-Samerotte, K., Hérisant, L., Blundell, J. R., Levy, S. F., Fisher, D. S., Sherlock, G., Petrov, et al
2016; 166 (6): 1585-1596 e22
- **Introducing a New Breed of Wine Yeast: Interspecific Hybridisation between a Commercial *Saccharomyces cerevisiae* Wine Yeast and *Saccharomyces mikatae*** *PLOS ONE*
Bellon, J. R., Schmid, F., Capone, D. L., Dunn, B. L., Chambers, P. J.
2013; 8 (4)
- **Recurrent Rearrangement during Adaptive Evolution in an Interspecific Yeast Hybrid Suggests a Model for Rapid Introgression** *PLOS GENETICS*
Dunn, B., Paulish, T., Stanbery, A., Piotrowski, J., Koniges, G., Kroll, E., Louis, E. J., Liti, G., Sherlock, G., Rosenzweig, F.
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- **Analysis of the *Saccharomyces cerevisiae* pan-genome reveals a pool of copy number variants distributed in diverse yeast strains from differing industrial environments** *GENOME RESEARCH*
Dunn, B., Richter, C., Kvitek, D. J., Pugh, T., Sherlock, G.
2012; 22 (5): 908-924
- **Industrial fuel ethanol yeasts contain adaptive copy number changes in genes involved in vitamin B1 and B6 biosynthesis** *GENOME RESEARCH*
Stambuk, B. U., Dunn, B., Alves, S. L., Duval, E. H., Sherlock, G.
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- **Reconstruction of the genome origins and evolution of the hybrid lager yeast *Saccharomyces pastorianus*** *GENOME RESEARCH*
Dunn, B., Sherlock, G.
2008; 18 (10): 1610-1623
- **Microarray karyotyping of commercial wine yeast strains reveals shared, as well as unique, genomic signatures** *BMC GENOMICS*
Dunn, B., Levine, R. P., Sherlock, G.
2005; 6
- **SPECIFICITY DOMAINS DISTINGUISH THE RAS-RELATED GTPASES YPT1 AND SEC4** *NATURE*
Dunn, B., Stearns, T., Botstein, D.
1993; 362 (6420): 563-565
- **THE EFFECT OF HISTONE GENE DELETIONS ON CHROMATIN STRUCTURE IN *SACCHAROMYCES-CEREVISIAE*** *SCIENCE*
Norris, D., Dunn, B., Osley, M. A.
1988; 242 (4879): 759-761
- **TRANSFER OF YEAST TELOMERES TO LINEAR PLASMIDS BY RECOMBINATION** *CELL*
Dunn, B., Szauter, P., Pardue, M. L., Szostak, J. W.
1984; 39 (1): 191-201
- **Divergence in a master variator generates distinct phenotypes and transcriptional responses** *GENES & DEVELOPMENT*
Gallagher, J. E., Zheng, W., Rong, X., Miranda, N., Lin, Z., Dunn, B., Zhao, H., Snyder, M. P.
2014; 28 (4): 409-421
- **Starvation-Associated Genome Restructuring Can Lead to Reproductive Isolation in Yeast** *PLOS ONE*
Kroll, E., Coyle, S., Dunn, B., Koniges, G., Aragon, A., Edwards, J., Rosenzweig, F.
2013; 8 (7)
- **Comparative metabolic footprinting of a large number of commercial wine yeast strains in Chardonnay fermentations.** *FEMS yeast research*
Richter, C. L., Dunn, B., Sherlock, G., Pugh, T.
2013; 13 (4): 394-410
- **APJ1 and GRE3 Homologs Work in Concert to Allow Growth in Xylose in a Natural *Saccharomyces sensu stricto* Hybrid Yeast** *GENETICS*
Schwartz, K., Wenger, J. W., Dunn, B., Sherlock, G.
2012; 191 (2): 621-U504
- **Different selective pressures lead to different genomic outcomes as newly-formed hybrid yeasts evolve** *BMC EVOLUTIONARY BIOLOGY*
Piotrowski, J. S., Nagarajan, S., Kroll, E., Stanbery, A., Chiotti, K. E., Kruckeberg, A. L., Dunn, B., Sherlock, G., Rosenzweig, F.
2012; 12
- **Microarray karyotyping of maltose-fermenting *Saccharomyces* yeasts with differing maltotriose utilization profiles reveals copy number variation in genes involved in maltose and maltotriose utilization** *JOURNAL OF APPLIED MICROBIOLOGY*
Duval, E. H., Alves, S. L., Dunn, B., Sherlock, G., Stambuk, B. U.
2010; 109 (1): 248-259
- **Genetic and physical maps of *Saccharomyces cerevisiae*** *NATURE*
Cherry, J. M., Ball, C., Weng, S., Juvik, G., Schmidt, R., Adler, C., Dunn, B., Dwight, S., Riles, L., Mortimer, R. K., Botstein, D.
1997; 387 (6632): 67-73
- **Functional analysis of histones H2A and H2B in transcriptional repression in *Saccharomyces cerevisiae*** *MOLECULAR AND CELLULAR BIOLOGY*
Recht, J., Dunn, B., Raff, A., Osley, M. A.

