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Senior Biocuration Scientist, *Saccharomyces* Genome Database (2002 – present)  
Curation Group Leader, *Saccharomyces* Genome Database (2014 – present)

## I. Biographical Sketch

I have been working as a Biocurator since February 2002, when I joined the *Saccharomyces* Genome Database (SGD). Prior to that, as a geneticist studying both natural and cultivated yeasts, fungi, and bacteria in industrial settings for 6 years, I came to rely upon and greatly relish the treasure trove of information gathered, curated, and served up by SGD. It was an invaluable resource that greatly enhanced my own research, and I became convinced that biocuration and the free dissemination of knowledge were among the most noble of scientific endeavors that one could pursue.

The early part of my career involved the investigation of genome evolution in different vertebrate systems. This also involved the development of genetic techniques and markers with broad taxonomic applicability for the study of population structure, making use of differences in DNA variability both within a single genome, and between similar genomes within higher taxa. I demonstrated that conserved and variable regions are interspersed, and can be exploited as necessary to study population genetics and structure. Further, I provided evidence that sequence evolution in conjunction with the fossil record (specimens and the geographic strata in which they are found) can be used to calculate molecular clocks, which can then be used to estimate divergence times, speciation events, and continental bioinvasions.

Having established the utility and exploitation of DNA variability to identify and distinguish organisms at different taxonomic levels within vertebrates, I shifted my focus to microbial systems. The next phase of my career was spent studying the biology and behavior of various filamentous fungi, yeast, and bacteria in their natural habitats within industrial settings. I combined these sets of knowledge to develop ways to differentiate closely related organisms in the three microbial systems (filamentous fungi, yeast, and bacteria). I further developed these genetic methods into quick, infallible diagnostic tests for research into fermentation population dynamics and quality assurance in production environments.

Complete List of Published Work in MyBibliography:  
<http://www.ncbi.nlm.nih.gov/myncbi/browse/collection/40700673/>

## II. Motivation and Intended Contributions

The current phase of my career is focused on the use and creation of annotation systems to represent genomic data and scientific results from the literature. Scientific experimentation is the foundation for our understanding of the world around us. Biocuration collects, organizes, and preserves these experimental results in perpetuity, and contributes to the building of accumulated

scientific knowledge. My work involves the identification, validation, and integration of published scientific information into encyclopedic databases. I have also been actively maintaining the sequence and expanding the annotation of the *Saccharomyces cerevisiae* reference genome, and in recent years, have been promoting its expansion to a highly curated 12-genome reference panel.

As a member of the ISB Executive Committee, I will work to educate scientists about annotation activities and standards maintained by biocurators, and will proselytize about the fundamental value of biocuration to the advancement of science. I will promote biocuration as a profession, work to increase its visibility, and advocate for the recognition of biocurators and the outstanding work we do. Increased value and prominence can aid in the current mission of increasing funding support.

### III. Conflicts of Interest

I have no current affiliations or relationships that would prevent me from serving on the ISB Executive Committee.

#### Professional Memberships:

2002 – present	Member, Genetics Society of America
2006 – present	Member, International Society of Biocuration
2015 – present	Member, American Society of Human Genetics