

JGI Fungal Genomics Program

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ABSTRACT

Doubling the number of sequenced and annotated genomes every year, the JGI Fungal Program (jgi.doe.gov/fungi) is moving towards the new large scale initiatives aligned with the 2010 Grand Challenges for Biological and Environmental Research: a long term vision. One of the initiatives, the *1000 Fungal Genomes* project, is aimed to explore fungal diversity across the Fungal Tree of Life in order to provide references for research on plant-microbe interactions and environmental metagenomics. Another initiative, the *Genomic Encyclopedia of Fungi*, is focused on diversity among DOE relevant fungi in the areas of plant health and biorefinery parts lists, which will help us to explore the interactions of bioenergy crop species with symbionts and pathogens as well as to catalog industrially relevant genes, pathways, and hosts for biotechnology applications. In addition to broad exploration of fungal diversity, we will also focus on the functional analysis of several *fungal systems* of varying complexity: new model organisms, symbiotic systems such as lichens, and metagenomes of complex communities