

Microbial stress tolerance for biofuels : systems biology / Zonglin Lewis Liu, editor

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Abstrak

This microbiology monograph provides an overview of methods for studying microbial stress tolerance for biofuels applications using a systems biology approach.

Topics covered range from mechanisms to methodology for yeast and bacteria, including the genomics of yeast tolerance and detoxification, genetics and regulation of glycogen and trehalose metabolism, programmed cell death, high gravity fermentations, ethanol tolerance, improving biomass sugar utilization by engineered *Saccharomyces*, the genomics on tolerance of *Zymomonas mobilis*, microbial solvent tolerance, control of stress tolerance in bacterial host organisms, metabolomics for ethanologenic yeast, automated proteomics work cell systems for strain improvement, and unification of gene expression data for comparable analyses under stress conditions.