Aims & Scope:

Fungi are routinely used in industry for a wide range of applications, including the manufacture and processing of food and other consumer products, animal feed and industrial goods. They are also attracting increasing interest in the medical field. At the beginning of the 21st century, fungi were involved in the industrial processing of more than 10 of the 20 most profitable products used in human medicine. Development of genetic transformation systems and molecular biology tools for these organisms to facilitate production of recombinant proteins and other metabolites marked the onset of modern fungal biotechnology. The advent of recombinant DNA technology and large scale genomics analysis has placed fungi in the forefront of contemporary commercial applications. In this context, the purpose of this special issue is to look into the latest developments in fungal biotechnology and explore some pending questions such as how much sequencing of the genomes and transcriptome analyses of fungi used as expression hosts for recombinant gene products, has shed light on the nature of changes that boost high-level protein secretion; or, how to get around the problems of ‘fungal type glycosylation’ in recombinant pharmaceutical proteins, and can we improve production yields by better understanding and potentially redirecting metabolic fluxes in the cell. Last but not least, synthetic biology approaches are in full swing with the unicellular fungus baker’s yeast and filamentous fungi will soon follow suit.

Keywords:
Biodegradation and Bioconversion
Biofuels
Biopharmaceuticals
Biotransformation
Food Technology and Food Safety
Functional Genomics
Secondary Metabolites
Genetic and Metabolic Engineering
Industrial and Medical Biotechnology
Systems Biology
Synthetic Biology
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