

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM



**SDM COLLEGE OF ENGINEERING & TECHNOLOGY
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PROJECT ON

“BIOFUELS FROM LIGNOCELLULOSIC MATERIALS”

SPONCERD BY: - KSBDB

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ABSTRACT

During the most recent decades increased interest in fuel from biomass in the worldwide has emerged each time petroleum derived gasoline registered well publicized spikes in price. The world will face more heavily high-priced foreign oil and climate change has led to more investment on plant-derived sustainable bio-fuel sources. Biomass derived from corn has become one of the primary feedstock for bioethanol production for the past several years. However, the argument of whether to use food as Biofuels has led to a search for alternative non-food sources. Consequently, industrial research efforts have become more focused on low-cost large-scale processes for Lignocellulosic feedstock originating mainly from agricultural and forest residues. This review summarizes current approaches on Lignocellulosic-derived Biofuels bioconversion and provides an overview on the major steps involved in cellulosic-based bioethanol processes and potential issues challenging these operations.

Possible solutions and recoveries that could improve bioprocessing are also addressed. This includes the development of genetically engineered strains and emerging pre-treatment technologies that might be more efficient and economically feasible. Future prospects towards achieving better Biofuels operational performance via systems approaches such as risk and life cycle assessment modeling are also discussed.