

A Special Issue on
“Production of Sustainable Fuels and Chemicals from
Biomass by Chemical and Biological Catalysis”

ENERGY AND ENVIRONMENT FOCUS (EEF)

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Concerns have grown greatly arising from the continuous depletion of fossil-based resources and associated uncertainty on the economical and environmental sustainability of a fossil-dependent world. Biomass represents a particularly promising replacement of fossil as biomass exists in large quantity and is a carbon-neutral option for the production of fuels and chemicals. Recent advances in metabolic engineering have opened up the possibility of producing a wide range of molecules, which can be subsequently upgraded over chemical catalysis, by means of fermentation routes. The high selectivity of biocatalysis allowed the removal of excess functionality from biomass. On the other hand, the more robust chemical catalytic routes (homogeneous, heterogeneous, and photochemical/photoelectrochemical) allowed for the continuous processing of biomass for the production of alternative products to replace their fossil-based counterparts. Significant innovations in chemical, biological or their combination will be required to accelerate biobased chemical development to achieve the establishment of a sustainable chemical industry. This special issue focuses on the conversion and utilization of biomass resources by chemical and/or biological catalysis and we cordially invite submissions of both **review** and **original research articles** (full paper/communication) including but not limited to the following topics:

- Synthesis of heterogeneous catalysts for biomass conversion
- Homogeneously catalyzed conversion of biomass (sugars, lipids, etc.)
- Molecular biology and role in biomass conversion
- Metabolic engineering for biomass conversion via biological routes
- Photochemical and photoelectrochemical conversion of biomass
- Combined chemical and biological catalysis for biomass conversion
- Green process/solvent and its application in biomass conversion

Manuscript Submission

Manuscript must be prepared according to Journal’s guidelines, available at http://www.aspbs.com/efocus/inst-auth_efocus.htm. Submit your manuscripts in a single MS Word or PDF format (including all figures/tables) directly to **the Guest Editors** via **email**. A graphical abstract is mandatory for all types of articles. Please indicate your intention to publish in the special issue “Production of Sustainable Fuels and Chemicals from Biomass by Chemical and Biological Catalysis”.

All papers submitted to this issue will be subject to a strict peer-review process to ensure high quality. Please indicate in the cover letter that the submitted manuscript has not been published in part or in whole, is not currently submitted to any other journals for review, and will not be submitted elsewhere before a final decision is made by this journal.

Important Date

Manuscript Due: Mar 30 2016

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