

## International Conference and Exhibition on Biopolymers & Bioplastics

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## Amar K Mohanty

University of Guelph, Canada

## Advanced biorefining in the sustainable development of bioplastics and biocomposites

In the emerging bio economy era, both the biochemical and thermochemical biomass processing streams are well positioned to develop biobased chemicals, materials and fuels, through well-integrated biorefinery concept. Currently, the co-products and by products from biofuel industries are considered low-value products. However, these products show immense opportunities in engineering value-added bioplastics and biomaterials for industrial uses. "There is no such thing as waste; waste is a co-product looking for an opportunity" defines our approach to "advanced bio-refining" concept. The co-products and by products like: Distillers' dried grains with soluble (DDGS) from corn ethanol industries; crude glycerol from biodiesel industry; lignin from cellulosic ethanol industries and biochar from biomass pyrolysis industries, are being constantly explored for engineering new biobased materials. Resulting value-added bioplastics and biocomposites will not only help improve the economic return of the related renewable energy industries but will also help substitute currently used petroleum-based counterparts in the manufacturing sectors. These newly developed materials show promising potential for uses in interior automotive parts, consumer products and eco-friendly packaging materials. This approach is one of the mechanisms to reduce our dependence on petroleum, as well as the greenhouse gas (GHS) emissions. This presentation will highlight the opportunities for engineering new materials from biofuel co-products, as well as under-valued bioresources for value-added industrial uses.

## **Biography**

Amar K Mohanty, a Full Professor and Premier's Research Chair in Biomaterials and Transportation is the Director of Bioproducts Discovery & Development Centre at University of Guelph, Ontario, Canada. He is an international leader in the field of bioplastics, biobased materials and advanced bio-refining with a focus in engineering new sustainable materials. He has more than 500 publications to his credit including 260 peer-reviewed journal papers, 25 patents (granted/ filed), several conference presentation, 15 book chapters and three edited books - his total citations being 13,827 with h-index of 56. He was the recipient of the Andrew Chase Forest Products Division Award from the American Institute of Chemical Engineers (AIChE) and Jim Hammer Memorial Service Award from the BioEnvironmental Polymer Society. His R&D excellence has helped in developing a number of industrial products and recently his research innovations have brought three biobased products to the market place.

mohanty@uoguelph.ca

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