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**Green Chemistry and Technology**

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**Recent advances and future projections on sustainable development for bio-based furan production**

The concepts of sustainable development, bio-economy and circular economy are increasingly being applied to the synthesis of molecules of industrial interest. Among these molecules, furfural as a platform molecule is the subject of various research approaches to improve its synthesis and productivity, and also to extend its transformation for the production of molecules of interest. Due to the current momentum in promoting green chemistry for sustainable development, chemists have recently established catalytic reactions based on alternative technologies such as continuous flow. The present study showed recent breakthroughs obtained in the production of furfural, hydroxymethylfuran, methylfuran, methyl levulinate and  $\gamma$ -valerolactone starting from lignocellulose in the presence of homogeneous catalysts and heterogeneous catalysts using either batch process or continuous flow process. Various reaction parameters in dependence of time such as temperature, catalyst and feedstock loadings as well as solvent types have been optimized. Conception, synthesis and physico-chemical properties will be detailed.

**Biography**

Christophe Len has received his PhD in 1995 from the Université de Picardie Jules Verne followed by a Post-doctoral Fellow at the University of Hull (England). In 1997, he became Assistant Professor at UPJV and was promoted to full Professor in 2004 at the Université de Poitiers (France). In 2010, he moved as full Professor at the Université de Technologie de Compiègne - UTC (France) and in 2017, he developed his research in Chimie ParisTech (France). He has published almost 180 original publications and review articles, eight book chapters and nine patents. Among recent awards and recognition to his scientific career, he was promoted Honorary Professor of the University of Hull, England (2012-2018), Honorary Life Fellow of Indian Society of Chemists and Biologists (ISCB, 2014), Fellow of the Association of Carbohydrate Chemists and Technologist of India (ACCTI, 2015) and Fellow of the Royal Society of Chemistry (FRSC, 2015). In 2017, he has been honored with 2017 Glycerine Innovation Award sponsored by the American Cleaning Institute and the National Biodiesel Board. His current research explores organic chemistry and catalysis applied to biomass.

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