

Prof Sujan's Profile:

Dr. Sujan (CEng MIMechE) is an Associate Professor under the Department of Mechanical Engineering, Faculty of Engineering and Science, in Curtin University Malaysia. Dr. Sujan obtained his PhD Degree from the University of Science Malaysia in 2006 majoring applied mechanics and heat transfer with specific research focusing on Thermal Management in Electronic Packaging. Over the years, he has been working in the areas of thermo-mechanical stress analysis, green composite materials, and polymer composite materials. Dr. Sujan has more than 100 publications in reputable international journals and conference proceedings. He had secured several external and internal research funding projects and supervised a great number of HDR project students. He had served as the HOD of Mechanical Engineering from October 2014 to December 2017 in Curtin Malaysia. Dr. Sujan is a Registered Level 1 supervisor in Curtin University, Australia for Doctoral and Master Thesis (PhD and Master).

Keynote Title

Mechanical Performance of Lignocellulosic Biomass-Based Polymer Composites

Abstract

Lignocellulosic bio-mass or natural fibers have the potential to be processed to produce the cellulosic fibers. Cellulosic fibers in micro and nano scales are attractive to replace man-made fibers as reinforcement to create environmentally friendly products. Various types of cellulose and nanocellulose can be used straightaway or converted into unique forms of reinforcement, including distributed reinforcements, planar reinforcements, or continuous networked structures. Although there have been many promising achievements in the development and application of cellulosic nanocomposites under lab/pilot-scale conditions, there are several challenges relating to the capacity to produce cellulose-based composites at large-scale. This presentation attempts to address the opportunities and challenges of utilization of lignocellulosic bio-mass in polymer bio-composites. The key challenges related to the compatibility between polymer matrix and the lignocellulosic fiber and the research conducted by the author in this direction are also highlighted in this presentation.