

Under the aegis of GIAN  
**Advanced Course on Sustainability in Materials & Design**  
21<sup>st</sup> May to 1<sup>st</sup> June, 2018



Sponsored by: MHRD, Govt. of India  
Organized By

**Department of Mechanical Engineering,  
MNIT, Jaipur (Rajasthan)**

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## Overview

Manufacturing systems though create material wealth for humans; they consume a great amount of resources while generating a lot of waste. Environmental problems which were earlier seen as local problems are now seen as related to all the phases in a product's life cycle from extraction of material to waste or deposition of the used product. A sustainable product is a product, which gives as little impact on the environment as possible during its life cycle. The LCA is a more comprehensive way of determining the total environmental impact. Unfortunately, the current awareness among the academia about the availability of such tools is not that encouraging. This workshop is an attempt to bring the awareness of sustainability in manufacturing to a broad range of practitioners at the academic institutions, research organizations and industries. This course focuses on various aspects and strategies of Sustainability at the various stages of product life cycle such as-Material selection, Design, Manufacturing and Recycling with a special emphasis on the selection and design. In addition, various assessment tools for evaluating the impact along with the hands on practice session on different LCA software will be covered during this programme. This workshop will help to stimulate the interest in sustainable practices and accelerate the adoption by a larger group, the principles of sustainability at various stages. The main purpose to be served by the workshop is the transfer of the state-of-art knowledge in the area of sustainable materials, design and manufacturing, and networking to further progress in this area.

<p><b>Course Information</b></p>	<ul style="list-style-type: none"> <li>• <b>Duration: 21<sup>st</sup> May – 1<sup>st</sup> June, 2018</b></li> <li>• <b>Total Contact Hours: 50 hours: 2.5 hour lectures/day, 2.5-hour lab, over 2-weeks</b></li> <li>• <b>Number of participants for the course will be limited to fifty</b></li> </ul>
<p><b>Modules</b></p>	<ul style="list-style-type: none"> <li>• Carbon Footprint Calculations</li> <li>• Product Design for Environment</li> <li>• Materials and Environment</li> <li>• Circular Economy</li> <li>• Life Cycle Assessment (LCA)</li> <li>• LCA Practice sessions</li> <li>• MQL towards Sustainability</li> </ul>
<p><b>You Should Attend if you are...</b></p>	<ul style="list-style-type: none"> <li>• Executives, engineers and researchers from manufacturing, service and government organizations including R&amp;D laboratories.</li> <li>• Students at all levels (B.Tech./M.Sc./M.Tech./Ph.D.) or Faculty Members from reputed Academic institutions and technical institutions.</li> </ul>
<p><b>Fees</b></p>	<p><b>The participation fees for taking the course is as follows:</b></p> <ul style="list-style-type: none"> <li>• Participants from abroad: US \$ 100</li> <li>• Industry/ Research Organizations: INR 8000</li> <li>• Academic Institutions: INR 5000 for faculty, INR 2000 for Research Scholars</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• The above fee includes all instructional materials, computer use for tutorials and assignments. <b>(Exclusive of GIAN Portal Registration fee)</b></li> <li>• The participants will be provided accommodation on payment basis.</li> <li>• Please note that no TA/DA shall be paid to participants.</li> </ul>

## The Faculty

### Prof.P.N.Rao



Educated in Mechanical engineering in India with specialization in manufacturing engineering. Major teaching activities in manufacturing in India, Malaysia and USA over the last 40+ years. Research in various manufacturing and allied disciplines with major emphasis in Metal cutting, computer applications, mathematical modelling and sustainability. Author of a number of

textbooks that are widely used in India and Asia as textbooks in manufacturing engineering.

### Prof.S.G.Deshmukh



Dr. S. G. Deshmukh is currently a professor in the department of Mechanical Engineering at IIT Delhi. His research interest includes operations management including modeling and analysis of supply chain and quality issues and has publications in journals of repute. Dr. S. G. Deshmukh is affiliated with IIIE, ISME, POMS,

NCQM and other professional societies.

### Prof.G.S.Dangayach



Dr. Govind Sharan Dangayach is Professor and Head in Department of Mechanical Engineering in MNIT JAIPUR. He has published 200 research papers in various International and National Journals. He is Guest Editor of three International Journals viz. Production Planning & Control (PPC), International Journal of Manufacturing Technology & Management (IJTM), and International

Journal of Business Performance Management (IJBPM).

## Course Coordinator

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