Workshop No. 1
Additive Manufacturing and 3D Printing

Presenters: *Prof. Ahmad Barari, University of Ontario Institute of Technology, Canada*
James Janeteas, President, Cimetrix Solutions, Canada

OBJECTIVES

Additive Manufacturing technologies are creating a new platform for the design and manufacturing of products with a wide range of industrial applications. This workshop is designed to present state-of-the-art developments and methodologies in the three important aspects of Process, Applications, and Product Design for the Additive Manufacturing technologies.

CONTENT

This 4.5 hours workshop presents three courses on Additive Manufacturing Technologies as follows:

Course One – Additive Manufacturing Process
This course presents a comprehensive review of the commercially available additive manufacturing hardware and software solutions. It presents classification of the technologies based on the type of material that can be used, the cost of the process and product, accuracy of the production, and the mechanical properties of the final products.

Course Two - Additive Manufacturing Applications
This course reviews the applications of additive manufacturing technologies in a variety of industries. By presenting the real world case studies the participants will see the successful applications and also the limitations of the additive manufacturing solutions to various industrial problems. Also, some innovative applications and the potential for future developments in various industries will be briefly presented.

Course Three - Design for Additive Manufacturing
This course covers the design principles that need to be considered for an efficient prototyping and production with commercially available additive manufacturing technologies. Limitations and flexibilities of the different technologies will be discussed and a set of design guidelines will be presented. Also, a brief review of the topology optimization techniques for additive manufacturing will be presented.

The tutorial presentations will be complemented by **hardware and software demonstrations**.

The Workshop will take place on May 12, 2015.
Fees for INCOM 2015 attendees: Regular – CAN$ 250, Students – CAN$ 150.
Please register at http://incom2015.org/registration.html.