16वीं आत्माराम स्मृति व्याख्यान
16th Atma Ram Memorial Lecture

15 अक्टूबर/October, 2019

विषय: मॉडलिंग और सिमुलेशन के माध्यम से सामग्री नवाचार

Title: Materials Innovation Through Modeling and Simulation

द्वारा - **डॉ. मनोज चौधरी**, P.E., F.S.G.T., F. Am. Cer. Soc.
अध्यक्ष, MKC इन्नोवेशन्स, LLC एंव
अध्यक्ष अंतरराष्ट्रीय कांच आयोग (2015-2018)

by **Dr. Manoj Choudhary,** P.E., F.S.G.T., F. Am. Cer. Soc.
President, MKC Innovations, LLC and
President, International Commission on Glass (2015-2018)

सीएसआईआर - सीजीसीआरआई
CSIR-CGCRI

About the Speaker - Dr. Manoj Choudhary is an Adjunct Professor of Materials Science and Engineering at the Ohio State University, a Senior Advisor for Strategic Affairs to the Board of Directors of Glass Service, a.s., and the President of MKC Innovations, LLC. His professional interests include development of innovative materials processes and products through the application of engineering fundamentals, physics, chemistry, materials science, and advanced computational approaches. He has worked with a broad range of materials systems including ferrous and non-ferrous metals, glasses, polymers, and minerals.

Manoj Choudhary received his B. Tech. (Hons) and M. S. in Chemical Engineering from IIT, Kharagpur, and State University of New York at Buffalo respectively; and Sc.D. in Materials Science and Engineering from Massachusetts Institute of Technology. After post-doctoral research at MIT, he worked at Owens Corning's Science and Technology Center in Granville, Ohio during Sept. 1982-March 2018 and was a member of its Senior Technical Staff. At Owens Corning (OC), he laid the foundations for advanced computational fluid dynamics (CFD) based simulation of several key materials processes, including glass melting and polymeric foam extrusion. His contributions were at the core of some of the most significant glass and polymer process technology and product developments in OC during the past 35 years.

Dr. Choudhary is a Fellow of the British Society of Glass Technology and the American Ceramic Society (ACerS). He has presided over several professional organizations including the International Commission on Glass, Industry-University Center for Glass Research at Alfred University, the Glass and Optical Materials Division of the ACerS, and the Glass Manufacturing Industry Council (GMIC), of which he was also a founder. He was a Trustee of GMIC, a Director of ACerS and during 2013-2019, a Specially-appointed Professor of China State Key Laboratory of Advanced Technology for Float Glass.

Dr. Choudhary has received several awards and honors for his academic and professional achievements. These include Owens Corning's highest Technical Achievement Awards (multiple times), Falih N. Darmara Award (Materials Science & Engineering Department at MIT), Prof. S. K. Nandi Gold Medal (Indian Institute of Technology, Kharagpur), Friedberg Memorial Lecture (American Ceramic Society), Samuel R. Scholes Award Lecture (Alfred University) and the President's Award (the highest award from the International Commission on Glass).

Abstract - A defining characteristic of Dr. Atma Ram's celebrated career was his unwavering focus on applied research and building linkages between the scientific and industrial communities. The theme of the lecture, namely materials process and product innovation, honors this aspect of Dr. Atma Ram's legacy and represents the lecturer's grateful tribute to him.

The lecture illustrates industrial applications of scientific fundamentals, engineering analysis, and advanced computational models in combination with laboratory, pilot, and plant scale measurements for process and product innovation. It does so by describing case studies involving glass and polymeric manufacturing processes and products. Specifically, on the process side, we discuss the use of modeling for improvements and innovations in glass melting, forming, and polymeric foam extrusion processes. On the product side, we discuss developments of a nano-graphite containing extruded polystyrene product with enhanced thermal and mechanical properties, and a fiberglass insulation product for cold temperature applications. One of the case studies shows how industry-academia-government partnership can catalyze industrial innovation. While the lecture's focus is largely on glass manufacturing, a polymeric system is also included to illustrate the versatility of the approach of combining scientific fundamentals with engineering, modeling, and measurements for innovation in manufacturing.

Director and Staff Members of
CSIR - Central Glass and Ceramic Research Institute, Kolkata

cordially invite you to the

16th Atma Ram Memorial Lecture

Title: Materials Innovation Through Modeling and Simulation

to be delivered by

Dr. Manoj Choudhary, P.E., F.S.G.T., F. Am. Cer. Soc.
President, MKC Innovations, LLC and
President, International Commission
on Glass (2015-2018)

on 15th October, 2019 at 3.00 PM
at Meghnad Saha Auditorium of the Institute

Kolkata
1st October, 2019

Director
CSIR-CGCRI

Programme

15:00 Hrs	Welcome address and tribute to Founder Director, Dr. Atma Ram by Dr. K. Muraleedharan, Director, CSIR-CGCRI
15:10 Hrs	Introduction of Speaker by Dr. R. Sen, Consultant, CSIR-CGCRI
15:15 Hrs	16th Atma Ram Memorial Lecture by Dr. Manoj Choudhary, President, MKC Innovations, LLC and President, International Commission on Glass (2015-18)
16:15 Hrs	Presentation of Memento by Director, CSIR-CGCRI
16:20 Hrs	Vote of thanks by Shri Sitendu Mandal, Chief Scientist & Head Specialty Glass Technology Division & Project Management Division

कार्यक्रम

15:00 बजे	निदेशक, सीएसआईआर-सीजीसीआरआई, डॉ. के. मुरलीधरन, द्वारा स्वागत सम्बोधन एवं संस्थापक निदेशक डॉ. आत्माराम को श्रद्धांजलि
15:10 बजे	डॉ. आर. सेन, सलाहकार, सीएसआईआर-सीजीसीआरआई द्वारा अतिथि वक्ता का परिचय
15:15 बजे	डॉ. मनोज चौधरी, अध्यक्ष, MKC इन्नोवेशन्स, LLC एवं अध्यक्ष अंतरराष्ट्रीय काँच आयोग (2015-18) द्वारा 16वाँ आत्माराम स्मृति व्याख्यान
16:15 बजे	निदेशक, सीएसआईआर-सीजीसीआरआई द्वारा स्मृति-चिह्न प्रदान
16:20 बजे	श्री सीतेन्दु मण्डल, मुख्य वैज्ञानिक एवं विभागाध्यक्ष विशिष्ठ कांच प्रौद्योगिकी एवं परियोजना प्रबंधन प्रभाग द्वारा धन्यवाद ज्ञापन