Programme

11:30 Hrs : Welcome address by Dr K Muraleedharan, Director, CSIR-CGCRI

11:40 Hrs : Tribute to Founder Director, Dr Atma Ram by Dr Ranjan Sen, Chief Scientist, CSIR-CGCRI

11:50 Hrs : Introduction of Speaker Dr Kamanio Chattopadhyay, IISc, Bangalore by Director

12:00 Hrs : 13th Atma Ram Memorial Lecture by Dr Kamanio Chattopadhyay

13:00 Hrs : Presentation of Mementos to Dr Kamanio Chattopadhyay by Director

कार्यक्रम

11:30 बजे: डॉ. के. मुरलीधरन, निदेशक, सीएसआईआर-सीजीसीआरआई द्वारा स्वागत भाषण

11:40 बजे: डॉ. रंजन सेन, मुख्य वैज्ञानिक, सीएसआईआर-सीजीसीआरआई, द्वारा संस्थापक निदेशक डॉ. आत्माराम को श्रद्धांजलि ज्ञापन

11:50 बजे: निदेशक द्वारा डॉ. कमानियो चट्टोपाध्याय, आईआईएससी, बैंगालोर का परिचय

12:00 बजे: डॉ. कमानियो चट्टोपाध्याय द्वारा तेरहवाँ आत्माराम स्मृति व्याख्यान

13:00 बजे: निदेशक द्वारा डॉ. कमानियो चट्टोपाध्याय को स्मृति चिह्न प्रदान

The 13th Atma Ram Memorial Lecture

13 वां आत्माराम स्मृति व्याख्यान

Title: A View of the Evolving Energy Landscapes through an Academician's Perception

by **Dr Kamanio Chattopadhyay,** INAE Distinguished Professor
Interdisciplinary Centre for Energy Research and
Department of Materials Engineering
Indian Institute of Science, Bangalore

विषय: एक शिक्षाविद् की दृष्टि में उर्ज्वस्विता-भूदृश्य-निर्माण का विकास क्रम परिचय

वक्ता - डॉ. कमानियो चट्टोपाध्याय, आईएनएई विशिष्ट प्रोफेसर
ऊर्जा अनुसंधान हेतु अन्तरअनुशासनिक एवं पदार्थ अभियांत्रिकी विभाग
एवं भारतीय विज्ञान संस्थान, बैंगालोर

7th September, 2016

सीएसआईआर - सीजीसीआरआई

CSIR-CGCRI

About the Speaker - Dr Kamanio Chattopadhyay received his Bachelors of Engineering Degree in Metallurgical Engineering from Burdwan University in 1971 and MSc (Engg) and PhD from Banaras Hindu University in 1973 and 1978 respectively under the supervision of Professor P Ramachandra Rao. Appointed faculty member (Lecturer) at Banaras Hindu University in 1975, he later joined Indian Institute of Science in 1983 as an Assistant Professor. He is currently an INAE Distinguished Professor at the Interdisciplinary Centre for Energy Research and Department of Materials Engineering in Indian Institute of Science, Bangalore.

The research work of Dr Chattopadhyay primarily aims at synthesizing newer materials through nonequillibrium processing and understanding their structure and stability at different length scales. Dr Chattopadhyay utilized electron microscopy tool elegantly in conjunction with other techniques to unravel the complex structure of the materials. He is regarded as one of the leaders in the utilization of in-situ electron microscopy and his work on understanding the melting behavior of small particles of metals and alloys is highly regarded and extensively cited. Dr Chattopadhyay's recent work include phase separation in liquid and glasses and in understanding the peritectic reaction in melt for which he has utilized host of techniques including levitational undercooling and recently microgravity in the first Indian microgravity experiment on board the India's first recoverable SRE vehicle. Currently his group has made major contribution to understand the atomic level processes occurring at dissimilar joint interfaces and the mechanical behavior of bulk metallic glasses.

Dr Chattopadhyay has received several accolades. He is recipient of the prestigious Shanti Swaroop Bhatnagar Award(1995), Medal of the Materials Research Society of India, Birla Gold Medal of the Indian Institute of Metals, National Metallurgist Award of Government of India for life time contribution to the metallurgical profession and Life Time Achievement Award of the Electron Microscope Society of India. He is a fellow of all the prestigious science and engineering academies in India.

Dr Chattopadhyay leads the Indian effort in microgravity research. He is currently spearheading a large energy programme which includes a major consortium of Indian and American academic institutions and industry under the joint umbrella of US and Indian science agencies and another large Indian programme for developing efficient solar energy systems on behalf of Government of India and Government of Karnataka.

Abstract - Energy or more aptly the access to energy to our society and the country in terms of current supply –demand gap, the impact on environment and future needs to sustain the welfare of an ever increasing population can be discussed from many different perspectives. However, the dynamics of the energy availability always depend on the evolution of technology to harness it from nature and the affordability and reach of such technology to the population. The present talk will reflect the perception of an academic researcher concerned with this issue like most of this audience. We shall briefly trace the mankind's attempt to harness energy through a continuing process of technological innovation. Following this we shall briefly touch upon the current energy landscape and the feeling of urgency, particularly focussing our country, India. To overcome the challenge from the short-term perspective, policy and technological interventions are planned including increasing use of renewables. We shall analyse what are the current technological challenges facing us that we need to overcome through a process of innovation. However, technological innovation, although a continuing process, sometimes lead to a paradigm shift? We shall proceed to examine whether we can expect such a shift in near future and what the future landscape may be.

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

cordially invite you to

The 13th Atma Ram Memorial Lecture

Title: A View of the Evolving Energy Landscapes
through an Academician's Perception

to be delivered by

Dr Kamanio Chattopadhyay, FNA, FASc., FNAE
INAE Distinguished Professor
Interdisciplinary Centre for Energy Research and
Department of Materials Engineering
Indian Institute of Science, Bangalore

on 7th September, 2016 at 11.30 AM
in Meghnad Saha Auditorium of the Institute

Kolkata
31st August, 2016

Director
CSIR-CGCRI