Indian Institute of Technology Kanpur

C. N. R. Rao Lecture

6 PM, Friday, 25th August 2017, Venue: LH 16

Professor Dipak Mazumdar

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Title: Steelmaking: Engineering, Challenges And Opportunities

Abstract

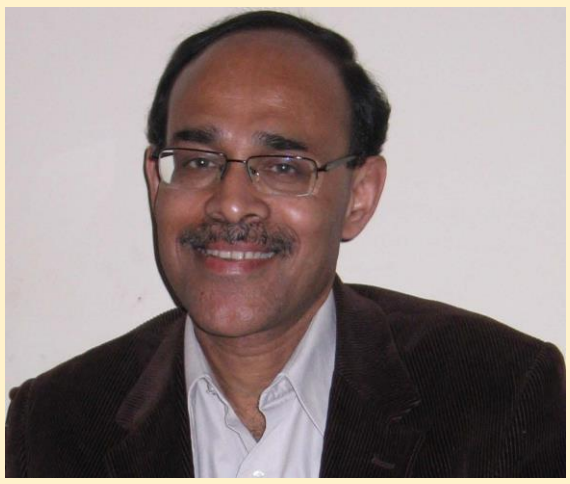
Present day steelmaking technology is sufficiently robust, efficient and fairly matured. Remarkable refining and casting rates (> 2kg C/s and ~7 tonne per minute per strand, respectively), huge yield (> 92%), reduced fossil fuel consumption and emission etc., accomplished on a daily basis, have become the hall mark of the steelmaking technology.

Given the back ground, engineering, challenges and opportunities in steelmaking are addressed. In such context, two significant technological innovations of the century, namely, the direct strip casting (DSC) and the endless strip casting (ESC) processes are introduced first. Following such, various current issues challenging the steel industry are presented and as a typical example, re-engineering of ladle-tundish-mold transfer operation, for clean steel production, is highlighted. In the concluding part of the presentation, state of R&D in Indian steel industry and academia is reviewed, *albeit*, briefly and many opportunities that exist, are pointed out.

About C.N.R Rao Lecture Series

This lecture series was made possible by a generous donation by Prof. C.N.R. Rao, Linus Pauling Professor at JNCASR, Bangalore. The objective is to give one faculty member of the IIT Kanpur, each year, the honor of delivering a lecture to the institute's community, sharing the excitement of his/her research with them. Prof. Rao was a Professor of Chemistry at IIT Kanpur from 1963-76. During this period, he also served as the Dean of Research and Development. Prof. Rao also served as the chairman of BoG at IIT Kanpur from 2003 to 2006.

Prof. Rao was born on June 30, 1934, in Bangalore. In 1958, he completed his Ph.D. from Purdue University and became a research chemist at the University of California at Berkeley. During 1984-89, he served as the Director of IISc Bangalore. He was the founder president of Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR), Bangalore. He received Bharat Ratna, the highest civilian award in India in the year 2014. He is the recipient of most of the major scientific awards and is a member of all major scientific organizations. He is a foreign member of the US National Academy of Sciences, American Academy of Arts and Sciences and also a Fellow of the Royal Society (London).



About the Speaker

Professor Dipak Mazumdar has been engaged in teaching and research at IIT Kanpur for over thirty years. Author of three text books, over one hundred forty research publications and a patent, Professor Mazumdar is a globally acclaimed personality in the field of steel education and research. Recipients of eighteen national and international awards, Prof. Mazumdar works as a consultant for more than a dozen steel, refractory and design organizations in the country. Beyond education of steel and research, Professor Mazumdar is actively involved with yoga and yogic sciences, arrange right diet for humans and music. He currently holds the distinguished Ministry of Steel Chair Professorship in the Department of Materials Science and Engineering at IIT Kanpur.

Past five speakers of the C N R Rao Lecture Series

Year	*Name*	*Title*
2016	Debashish Chowdhury	Molecular Motors: Force and Fluctuations, Information and Infidelity
2015	Anindya Chatterjee	Simple models for frictional hysteresis
2014	R P Chhabra	To yield or not to yield: Convection in Visco-plastic Fluids
2013	Debasis Kundu	Analyzing Periodic Data: Statistical Perspectives
2012	Sanjay Mittal	Using High Performance Computing (HPC) for Understanding Fluid Flows

Contact: Dean of Research & Development