

PUBLIC LECTURE ANNOUNCEMENT

MINERALS, METALS AND MATERIALS TECHNOLOGY CENTRE (M3TC)
FACULTY OF ENGINEERING
National University of Singapore
EA-06-15, 9 Engineering Drive1 Singapore 117576
Tel: (65) 6516 8296 Fax: (65) 6777 6235



We are organising a series of public lectures that will highlight some of the research activities by M3TC

TOPIC	CFD study of steelmaking degassing processes
SPEAKER	Dr Govind S. Gupta Department of Materials Engineering Indian Institute of Science Bangalore, India
CHAIRER BY	Prof Arun Sadashiv Mujumdar (Centre Director, M3TC)
DATE	7 October 2009 (Wednesday)
TIME	11am to 12pm
VENUE	EA-06-04, Faculty of Engineering, National University of Singapore <u>NUS Campus Map & NUS: Faculty of Engineering</u>

Please register via email: m3tc@nus.edu.sg

SYNOPSIS

In recent times the demand of ultra-low carbon steel (ULCS) with improved mechanical properties such as good ductility and good workability has been increased as it is used to produce cold-rolled steel sheets for automobiles. For producing ULCS efficiently, it is necessary to improve the productivity of the vacuum degassers such as RH, DH and tank degasser. Recently, it has been claimed that using a new process, called REDA (Revolutionary Degassing Activator), one can achieve the carbon content below 10ppm in less time. REDA process, in terms of installment cost, is in between the tank degasser and RH processes. As such, REDA process has not been studied thoroughly. Fluid flow phenomena affect the decarburization rate the most besides the chemical reaction rate. Therefore, the fluid flow phenomena have been studied in details for REDA process. Also, computational fluid dynamic studies have been made for tank degasser and RH processes to compare them with REDA process. Computational results have been validated with published experimental and theoretical data. It is found that REDA process is the most efficient among all these processes in terms of mixing efficiency.

BIOGRAPHY

Dr. Govind S. Gupta is an Associate Professor in the Department of Materials Engineering at the Indian Institute of Science, Bangalore, India.

He obtained his Ph.D. from the University of Wollongong, Australia, in 1990. He is a member of Editorial board of International Journal of Engineering Systems Modelling and Simulation (IJESMS), UK and Member of Advisory Board of Biju Patnaik Institute of Science and Technology, Bhubneshwar, Orissa, India. He has been awarded "Metallurgist of the Year" from Ministry of Steel, Government of India in 2005. He has published more than 85 papers. His main research interest is in the area of Process Metallurgy.

All Are Welcome. Admission is Free

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