Indian Institute of Metals, Pune Chapter and
College of Engineering, Pune
very cordially invite you to an invited lecture on

"Technological Challenges to Aluminum Scrap Recycling "

by Professor T.R. Ramachandran

Formerly with IIT Kanpur (1961-88) and the Founder Director (1989-99), Jawaharlal Nehru Aluminum Research Development and Design Centre (JNARDDC), Hyderabad; currently Guest Professor at IIT Gandhinangar and the Visiting Professor at the Non-ferrous Materials Technology Development Centre (NFTDC), Hyderabad

Date and Time
Tuesday, September 1st, 2015, 5 PM
Venue
Mini Auditorium, New Academic Complex, COEP
Near Boat Club, College of Engineering, Shivaji Nagar Pune
Tel: 09225518568 (Pradip)/09158990321(ST Vagge)

Abstract

Recycling of aluminum scrap offers several advantages – conservation of natural resources (bauxite, coal and water), reduction in power and fluoride consumption and in green-house gas emissions. In addition problems of dealing with waste products such as red mud and spent pot lining are avoided. There is a gradual growth of the recycling industry in the last three decades with secondary aluminum accounting for 25%-30% of total metal production at present. The major sources for scrap are packaging and transportation sectors; the frequency of scrap generation from the building and construction and power sectors is somewhat limited. The challenges faced in the recycling operation - efficient collection efficiency, separation of various metals, alloys and nonmetals in the scrap, improving the efficiency of melting and melt treatment - are dealt with in this presentation. Steps in closed loop recycling, which facilitates conversion of scrap into product of the same alloy or alloy family, are explained. Recent developments in methods for scrap separation and melting units with considerably

improved thermal efficiency are elaborated. Targets set for sustainable development of this sector are briefly considered.

About the Speaker

Professor Ramachandran is currently the guest faculty at IIT Gandhinagar and the visiting professor at NFTDC, Hyderabad. He is the founding director (1989-99) of the Jawaharlal Nehru Aluminum Research Development and Design Centre (JNARDDC), Hyderabad and formerly a faculty member at IIT Kanpur (1961-88). He has also been a visiting professor at various reputed institutions such as IIT Bhubaneswar (2014), Homi Bhabha National Institute, IGCAR Kalpakkam (2011), NIT Trichy (2008-2009), McMaster university (1979, 1981, 1985 and 1986).

He has held various positions of responsibility at IIT Kanpur - Convener, Central Electron Microscopy Facility (1975-76, 1978-84), Foreign Student Adviser (1981-86) and the Head, Metallurgical Engineering Department (1986-88) before taking up the position of National Project Director, UNDP and the Founding Director, JNARDDC. He has also served on the board of directors of several companies including National Aluminum Company, NALCO (1991-93), Bharat Aluminum Company, BALCO (1994-97), Paradeep Carbons (2002-06) and Alufluoride (2004 - till date).

Professor Ramachandran is a distinguished metallurgist known for his work on aluminum alloys. He has lectured extensively in reputed institutions in India and abroad on topics such as aluminum alloys, electron microscopy, sustainable development, scrap recycling and energy conservation in aluminum industry. He has more than 100 technical publications to his credit. He had co-organized (and co-edited the Proceedings) the International Conference on Progress in Metallurgical Research-Fundamental and Applied Aspects at IIT Kanpur in 1986.