

## **A Brief Report on the Two Day National Seminar of TRAERF on METALLURGY FOR NON-METALLURGISTS (MNM-2015)**

TR Anantharaman Education and Research Foundation (TRAERF) conducted a 2-Day National Seminar on METALLURGY FOR NON-METALLURGISTS in association with Metallurgy and Materials Engineering Department of Mahatma Gandhi Institute of Technology (MGIT), CBES at Gandipet, Hyderabad during January 29 and 30 of 2015. Nearly 300 delegates participated in the seminar which included nearly 100 non-metallurgy background engineers and 200 mechanical and metallurgy students (with free registration) from various parts of India.



Dr. N Eswara Prasad, Convener, MNM-2015 briefed the outline of the technical programme of the seminar that was stitched carefully by Professor K Bhanu Sankara Rao, Ministry of Steel Chair Professor at MGIT and Trustee of TRAERF. Professor P Rama Rao, President, TRAERF delivered a memorable



introduction to the seminar by elucidating the evolution of Metallurgical Education and Research in the world. He also referred to visionary founding of what is now IIT-BHU\_MET in 1919 by Bharat Ratna Mahanama Madan Mohan Malaviya. He also talked about the initiation by Professor NP Gandhi of a pioneering department of geology, mining and metallurgy (GMM) in the year 1923. Dr. N.P. Gandhi set up this unique department at a time when world-renowned Cambridge and Oxford Universities did not have full-fledged metallurgy departments.

Professors T Srinivasa Rao, Director, NIT-Warangal and G Malakonda Reddy, Chairman, CBES delivered brief speeches addressing the role of Metallurgy in Engineering and also, the importance of metallurgical knowledge dissemination to non-metallurgists.



The seminar addressed various technical aspects of Metallurgy through 16 invited talks, spread over 4 technical sessions – fundamentals of physical metallurgy, heat treatment and mechanical behavior; principles of alloy development, metal and material processing and applications in case of steels, Al alloys, Ti alloys, Ni-base superalloys, and Mg alloys; melting, processing, fabrication, manufacturing and joining technologies; and finally the science, research, characterization and fabrication of coatings and nano materials. All the invited lectures delivered were found to be extremely comprehensive and highly informative.

Among many takeaways from the conduct of MNM-2015, the significant ones are: (i) Metallurgical knowledge dissemination to nearly 100 mechanical and aero engineers and 200 budding metallurgical engineering students; (ii) A vital input for TRAERF that the future 2-Day MNM national seminars could address FUNDAMENTALS OF METALLURGY during the first full day and devote the second day to topics related to a particular theme, covering full details of that particular theme. Such a plan will effectively cater to the Academic, research institutes as well as industry; and finally (iii) The industrial participants desired that TRAERF should help them by conducting 1-Day theme seminars on topics that are of direct relevance to their own industry, such as, STEELS, AERO MATERIALS, MELTING AND CASTING, PROCESSING & PRODUCTION TECHNOLOGIES, HEAT TREATMENT, COMPUTER AIDED MANUFACTURING, CLOSE DIE AND ISOTHERMAL FORGING, PRACTICAL ASPECTS & RECENT ADVANCES OF NDT, MECHANICAL PROPERTY EVALUATION, MECHANICAL BEHAVIOUR, FATIGUE & FATIGUE DESIGN, FRACTURE MECHANICS, DAMAGE TOLERANCE AND ITS BASED STRUCTURAL DESIGN, LIFE PREDICTION AND LIFE EXTENSION, AND MODELING.