

# Greetings

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*Scientist-in-Charge, National Metallurgical Laboratory*



Dr T. Banerjee

SIR JEHANGIR GHANDY, Dr Atma Ram, Ladies and Gentlemen : It is a proud privilege indeed for me to welcome you all at this 16th Symposium on 'Recent Developments in Non-ferrous Metals' Technology' organised by the National Metallurgical Laboratory.

I take this opportunity to express my deep sense of gratitude to Sir Jehangir Ghandy, who in spite of his varied duties, has kindly agreed to preside over today's inaugural function. Without his close association, no function of

NML can be called complete and successful. In fact, for the last twenty years, we have been drawing our energy for scientific work from Sir Jehangir Ghandy in the form of advice and encouragement. Today, NML and Sir Jehangir Ghandy are synonymous.

It is my most pleasant duty to thank Dr Atma Ram, Director-General, Scientific and Industrial Research, and Secretary to the Government of India, Ministry of Education, for having agreed to come down to Jamshedpur to inaugurate the Symposium, despite his multifarious activities and heavy responsibilities. Dr Atma Ram, as a scientist, planner and administrator, is sometimes very difficult for us to understand. But I can tell you that we will be able to collect correct and reproducible data about him, if we view him through the glasses of sincerity, honesty and spirit of dedication to science. We always look to you, sir, for your advice and guidance.

Friends, I came to Jamshedpur in the past as a student and teacher to see the miracle of steel-making. But now as a member of the NML staff for the last 20 years, I have noticed how the steel producers care equally for ferrous and non-ferrous metals and also for non-metals. Rather they care more for control of sulphur, phosphorus and silicon and take help of aluminium, manganese, etc. for the production of quality steel.

We shall be simply astonished if we look into the influence of non-ferrous metals in our every day life.

You will find brass, bronze and aluminium utensils in every house. Stainless steel utensils, so pleasant to look at, will no longer remain so if you deny Ni, Cr, Mn during its production. Today, you all like light-weight Al bedstead in preference to heavy steel ones. Production of special steels and other requirements for defence depends on the use of non-ferrous metals. A large portion of aircraft parts is produced from non-ferrous metals and alloys. Metals like uranium, thorium, zirconium, beryllium, magnesium and calcium have an important role to play in the production of nuclear energy. These are only a few examples.

For peace on the home front, it is well-known, you have to take the help of Au, Ag, Pt or Au/Ag electroplated jewellery!

Such is the importance of non-ferrous metals ! But India is not lucky to have any workable sources for Ni, Co, W, Sn, Mo, Ag though we have plenty of Al, Mn, Cr, Ti, etc. and some limited resources for Cu, Zn, Pb and Au. So we are going for the substitution of Cu with Al, Ni with Mn, W/Mo with Cr and so on. In addition to working on substitution, NML is busy in solving various problems, connected with non-ferrous metallurgy. We are conscious of the various difficult problems connected with the development of non-ferrous metallurgy. Going through the list of delegates, who have come to us today from various institutions and industries, both from India and abroad, one feels assured that all the aspects of the Symposium are in very competent hands.

Mr Coffey and Dr Jacob of 'Operation hard rock' fame are with us. They, with their colleagues, are flying days and nights, air-sick and home-sick, only to find out the sources of Cu, Zn, Pb, etc. in the heart of hard rock. Dr Jacob, when you strike any of these ores, I can assure you that NML will be by your side for assessment, beneficiation and extraction work.

We thankfully welcome the delegates from abroad who have taken all the trouble to be with us today. To us, Indians, the people from abroad occupy, from ancient times, a highly exalted position. I take this opportunity to introduce them to Sir J. Ghandy, Dr Atma Ram and to you, ladies and gentlemen.

**From England**

Mr S. W. K. Morgan,  
Technical Director,  
Imperial Smelting Corporation Ltd., Bristol.

Dr R. T. Parker,  
Vice-President and Director,  
Alcan Research and Development Ltd.,  
Banbury, Oxon.

Mr C. D. B. Smith,  
Manager, Metallurgical Processes,  
The Power-Gas Corporation Ltd.,  
Stockton-on-Tees.

**From U.S.A.**

Dr N. M. Parikh,  
Director, Metals Research,  
IIT Research Institute, Illinois.

**From France**

Mr R. Gauvry,  
Manager of the Aluminium Technical Centre,  
Paris.

**From Czechoslovakia**

Mr Dusek Ludovit,  
Chief Engineer of KO Krompachy,  
Kosice.

Dr Ing. Juraj Schmiedl,  
Director,  
Research Institute for Non-ferrous Metal-  
lurgy of The Technical University,  
Kosice.

**From U.A.R.**

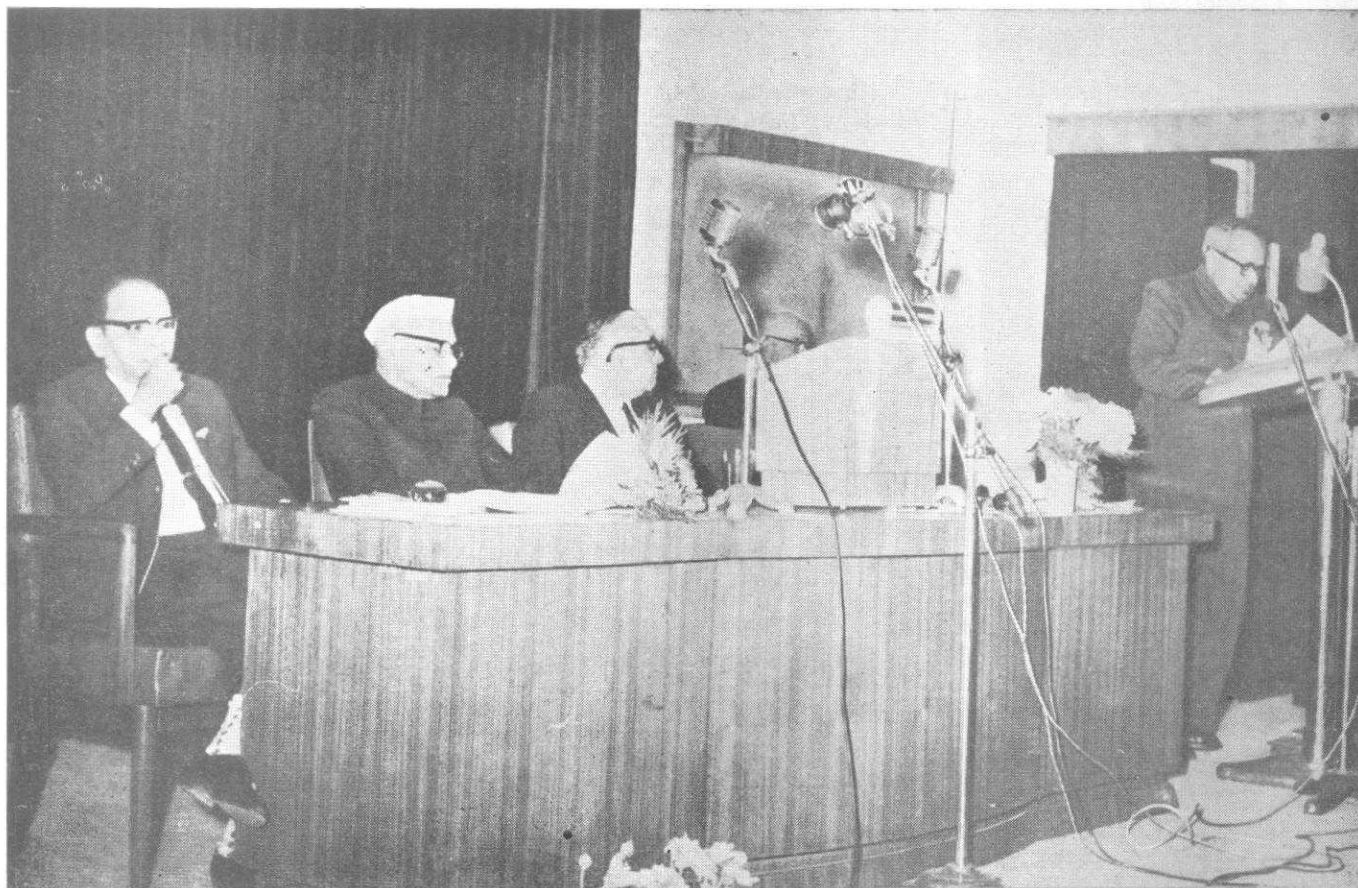
Dr E. M. Khairy,  
Professor of Inorganic Chemistry and Dean  
of Faculty of Science,  
Cairo University.

**From Turkey**

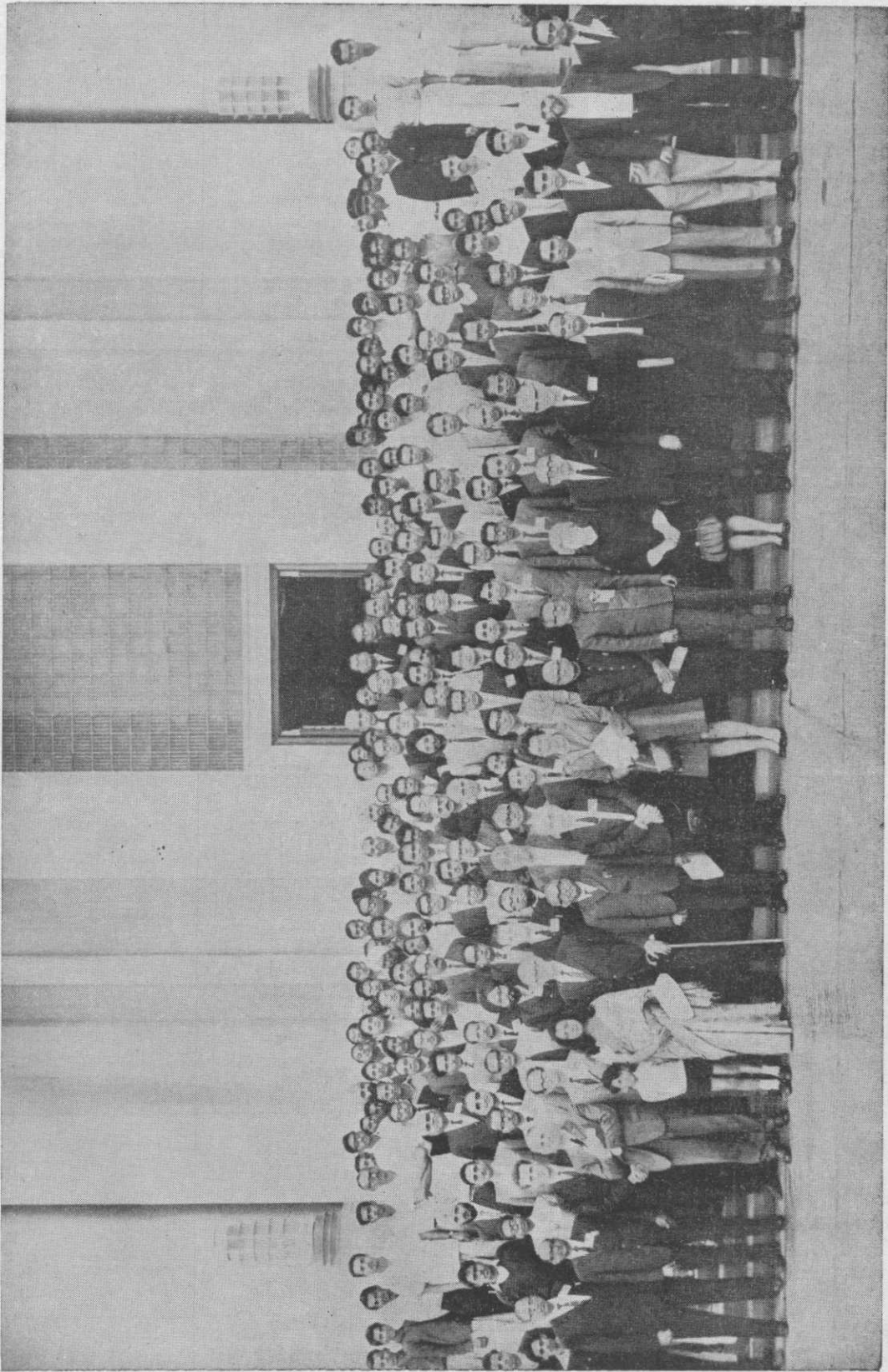
Prof. A. Safoglu,  
Associate Prof. of Metallurgy,  
Istanbul Technical University.

I welcome you all again to this Symposium.  
Thank you.

*Dr T. Banerjee, Scientist-in Charge, National Metallurgical Laboratory, welcoming the delegates on the inaugural day*







*Group photograph of some of the delegates to the Symposium*