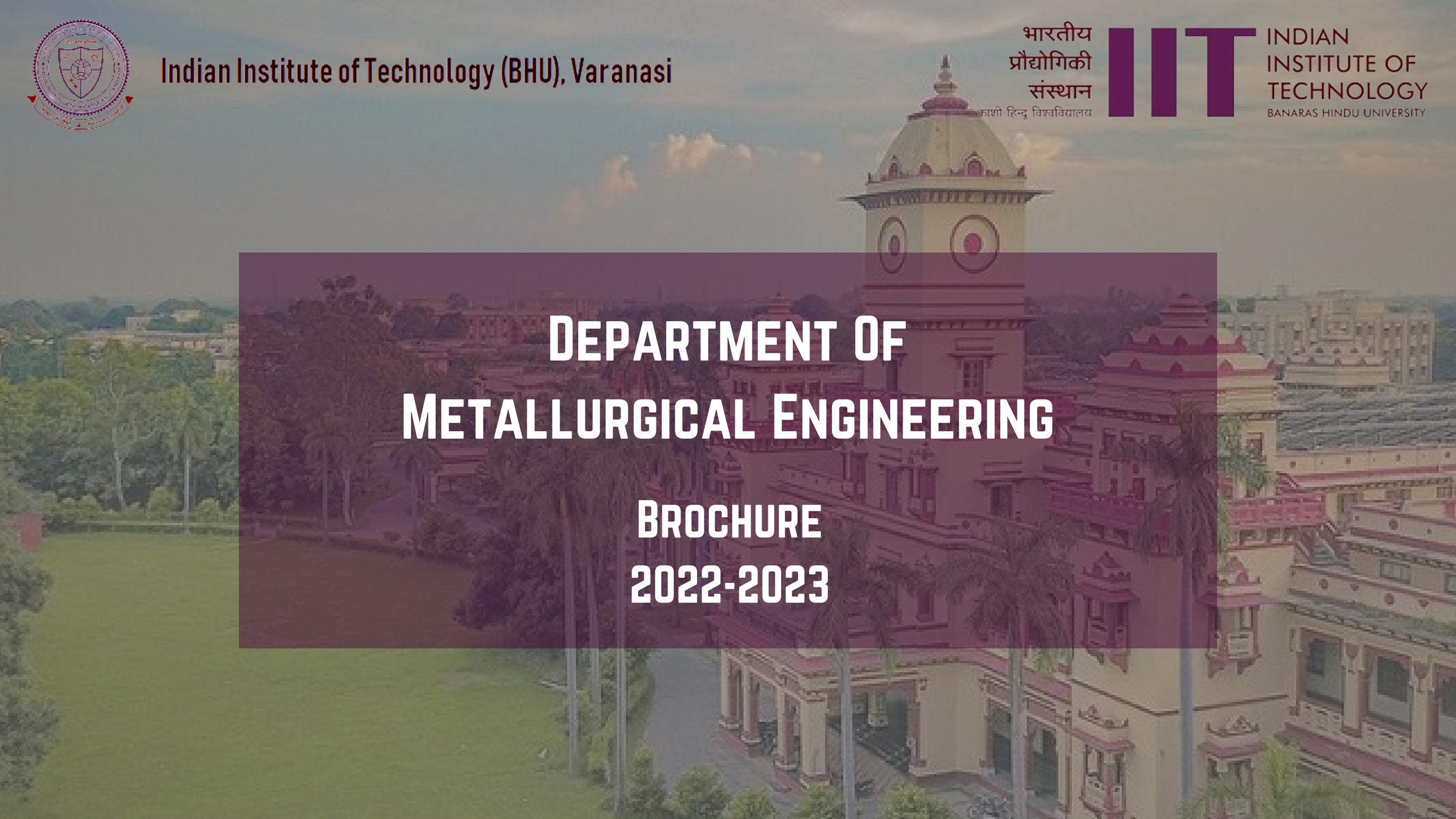
Indian Institute of Technology (BHU), Varanasi

भारतीय प्रौद्योगिकी संस्थान
काशी हिन्दू विश्वविद्यालय

IIT INDIAN INSTITUTE OF TECHNOLOGY
BANARAS HINDU UNIVERSITY



Department Of Metallurgical Engineering

Brochure
2022-2023

ABOUT US

The Department of Metallurgical Engineering at IIT BHU was established in the College of Mining and Metallurgy (MINMET) in 1923. Since then, the department has successfully prepared engineers for building better technologies and applications for various processes in industries. Significant research has been done in all the fields of metallurgy, namely physical, mechanical and chemical. Students of both undergraduate and postgraduate degrees strive to reach the epitome of excellence. Several department alumni are now at the apex of leading industries, educational institutions, and research establishments across India and abroad. While some have successfully established their own industries and organisations, several others are serving in diverse governmental departments and agencies.

FACILITIES

LABORATORIES:

Structural Metallography, Mechanical Testing, Extractive Metallurgy, Chemical Metallurgy, Electron Transport Measurement, Transport phenomena, Industrial Metallurgy, Welding, Foundry, Electrometallurgy and Corrosion, and Computers.

EQUIPMENTS:

200 KV Transmission Electron Microscope, Vacuum Sputtering Unit Edwards, Precision Impedance Analyser, Scanning Electron Microscope, QUANTA 200 F, X-ray Generator and Guinier Camera, Nonius, Atomic Absorption Spectrophotometer, Magnetic Susceptibility System, CAHN-200, Servo-Hydraulic Testing Machine (20 Tons), Universal Testing Machines (10 tons), Instron 4206, Scanning Auger Microscope, VG SCIENTIFIC ESCALAB, X-ray Diffractometer, RIGAKU Dmax IIC, Optical metallographs LEITZ and Laborlux and Metallux.

COLLABS

Indian Institute of Metal, Varanasi Chapter

Indian Institute of Metal, Varanasi Student Chapter

Institution of Engineers, Varanasi Chapter

N.P. Gandhi Memorial Metallurgy Trust

Research Areas

Nanocrystalline Material, Structural and Electronic Behaviour of Quasicrystals, Spray Forming of Complex Alloys, Reduction Kinetics of sulphides/oxides, Plasma Smelting of Waste Chromite Ore, Wear Studies of Monolithic and Composite Materials, Thermodynamic, Structural and Transport Properties of Semiconducting Intermetallics, Environmental Control in Metallurgical Industries, Mechanical Alloying, and Severe Plastic Deformation, Fatigue Behaviour of Aerospace and Nuclear Materials.

ADVANCED RESEARCH CENTRE FOR IRON AND STEEL (ARCIS)

Coordinator : Dr. R. Manna

ARCIS created as a part of the Metallurgical Engg. Department will have state-of-art equipment procured and installed.

The goals of ARCIS include:

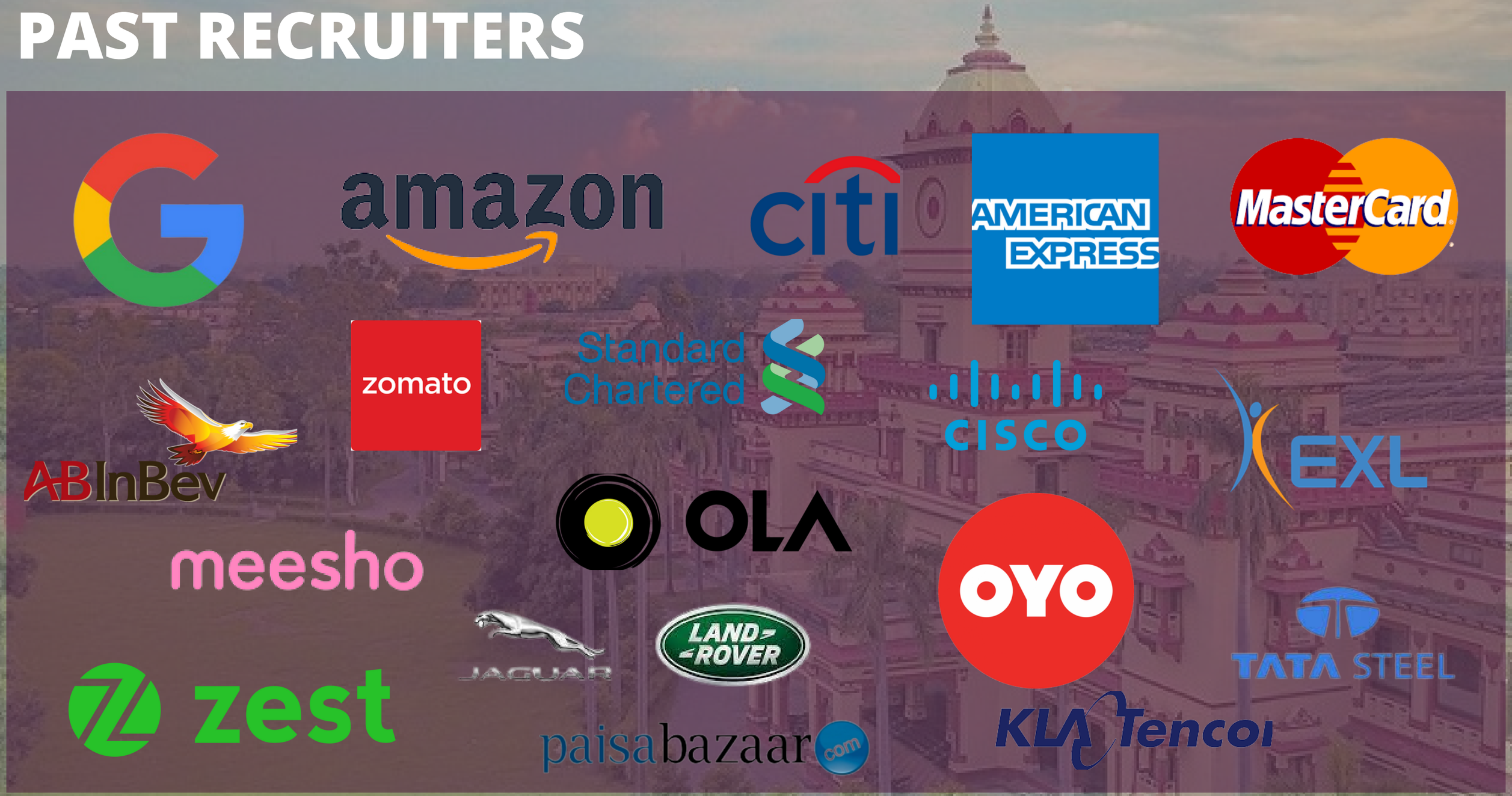
1. Creation of well-qualified manpower with advanced skill sets in the areas of raw material processing modelling of direct reduction processes as well as thermomechanical processing of steels.
2. Development of a knowledge base that can be adopted by the steel industry with the potential of scaling ups.

MCRT MALAVIYA CHAIR FOR RAILWAY TECHNOLOGY (MMCRT)

Coordinator: Prof. RK Mandal

This chair has been established by the Ministry of Railways. On June 08, 2015, Government of India collaborated with our Institute in the area of Materials Science and Engineering. Some of the areas where our expertise has been sought pertain to Physical Metallurgy and Mechanical metallurgy. Some of the relevant activities include: Two research projects are nearing their successful completion. Development of Light Weight FRP runner for blower fan assembly of Roof Mounted Package Unit (RMPU) fitted in AC coaches. Development of long-life Nylon bushes for Alternator with suitable material composition to avoid failure of bushes. This Chair is expected to provide a stimulus for creating a research center to meet the entire corpus of engineering needs of the Railways.

PAST RECRUITERS



PAST RECRUITERS

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