

Talk on
“Current & Futuristic Materials for Defense Systems”
by Dr. Arvind Bharti

A talk on “*Current & Futuristic Materials for Defense Systems*” was organised at Delhi Chapter on 16 May 2015.

At the outset Shri S C Suri, Chairman IIM Delhi Chapter welcomed Dr Arvind Bharti, Director Cluster Co-ordination, DRDO HQ, Ministry of Defence. Shri Suri gave brief details about the activities of Indian Institute of Metals at national level. He also highlighted the activities being undertaken regularly at Delhi Chapter level. It was emphasised that the focus of the programmes being organised is on different issues related to metallurgical disciplines.

Shri K L Mehrotra, Vice Chairman, IIM Delhi Chapter introduced the speaker, Dr Bharti. After introductory reference, the floor was handed over to Dr Arvind Bharti.

Dr Arvind Bharti focussed on various activities of DRDO (*Defence Research & Development Organisation*) in a vast spectrum of technologies to serve the operational requirements and indigenisation of different weapon systems required for Indian Defence Forces. He highlighted various technological challenges in DRDO’s 46 Labs (Naval Systems & Materials, Life Sciences, Electronics & Communication Systems, Microelectronic Devices & Computational Systems, Missiles & Strategic Systems, Armaments & Combat Engineering Systems and Aeronautical Systems). Dr. Bharti highlighted the role of development of new materials for extreme weather conditions as well as for specific



weapon requirements. He focussed on development of suitable materials for the following systems

- ❖ Missile Systems
- ❖ Aeronautics Systems
- ❖ Combat Vehicle Systems
- ❖ Propulsion systems
- ❖ Engine Technology
- ❖ Rockets & Ammunitions
- ❖ Guns and Small Arms
- ❖ Propellant & Explosives
- ❖ Battle Tanks
- ❖ Bridges and Mine flailing Systems
- ❖ Rocket launchers
- ❖ Unmanned Ground Vehicles
- ❖ Microelectronics Devices
- ❖ Electronic Systems
- ❖ Electronic Warfare Systems for various platforms
- ❖ Radars
- ❖ Sonar Systems
- ❖ Torpedo/AUV Systems
- ❖ Fuel Cell and AIP technologies



In addition many specific materials like envelop material for aerostate with different strengths, Parachute fabrics, high strength low weight composite fabric, assorted textiles, material for improved propulsion technology, self-healing and self-diagnosis material, nano-material for aerospace, material for aero gas turbines, super alloys, fibres for composites, stealth materials, material for smart actuation, material for magnets, material for IR domes, Graphene and nano materials, nano-fluids, lightweight materials for various structural



applications, technical ceramics and advanced composite materials, microwave tube materials, SiC material, nano-material for THz detector, etc.

The presentation which was supported by visuals and videos evoked a lively response amongst the audience. There were a question and answer sessions during/after the Presentation

The talk was attended by about 50 IIM DC members.

The audience found the programme very interesting and informative.

Shri G I S Chauhan, Hony. Jt. Secretary, Executive Committee, IIM DC, proposed a vote of thanks to Dr Arvind Bharti and all the participants.

As a token of appreciation, a Shawl was presented to Dr Bharti by Chairman.



The programme concluded with lunch.

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